

CLASSICAL LANDSCAPE WITH RUINS – A TURKISH SETTING

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Anyone who is lucky enough now, at the end of the twentieth century, to visit Western Turkey, driving conveniently about its excellent roads among varied and strikingly beautiful scenery, is also joyed by the display of classical ruins in the region. On the other hand those who have spent a long time concerned with the care of ancient monuments are overjoyed with what they see. The reasons for this are of interest, and worth some comment.

I

Concern for the preservation and presentation of ancient monuments in the modern world (there was some in antiquity) emerged during the nineteenth century in Western Europe as an appanage of the Romantic Movement. It was not a direct correlative of the investigation and study of ancient monuments. This latter investigation, both on the ground and also through critical study of literary sources, began very conspicuously with the Renaissance in Italy. Almost all the notable renaissance architects (in many instances equally painters and sculptors) made measured drawings of surviving Roman monuments (indeed, on occasion, they cleared them somewhat for the purpose). Such interest, however, in no way carried over into a public concern for the preservation of the monuments. On the contrary the history of destruction of classical monuments (in Rome) by human agency is significantly focussed on the Renaissance. The enlightened potentates destroyed what they had just been taught to value. *Quod non fecerunt Barbari fecerunt Barbarini vehementer*. Renaissance civilisation was self-confident, self-centred.

In any event by the sixteenth century a considerable amount of technical information had been collected and made available to the *cognisanti* concerning the monumental buildings of ancient Rome (above all those in and around Rome itself). Only the rarest exception among these monuments remained entire and functional; while some others had been converted (in whole or in part) to new functional service by drastic remodelling. As a rule such buildings survived as picturesque ruins sequestered to a greater or less degree from the bustle of contemporary life. And it is in this latter connection that awareness of these buildings was to become wide spread. The vehicle for this was a new fashion in the arts-landscape painting.

Almost any genre of painting: mythological, historical, portraiture inevitably incorporates passages depicting natural scenery (landscape). However these occur as background to figures which carry the meaning and feeling of the work. Yet there seems a natural evolution in painting whereby such passages increase their significance to an equal share in the composition with the figures. Eventually, as an end to this development figures are ousted completely or serve only as subsidiary elements to the scenery. This model is true landscape painting. A critical tendency exists to view the development as one of decline in consequence or gravity. Certainly the development aligns itself with a basic romanticism, and in that instance it appears in Western civilisation to have evolved first in the North (cf Breughel or Bosch). And perhaps it was by way of Venice (cf Bellini) that it gained ground in Italy during the sixteenth century. All this is a commonplace of art history, however the succeeding development, which is not at all an obvious one in art history, was to have great and far-reaching consequences for the care of ancient monuments in a later day.

Claude Gellée (1600-1684) was born and grew up in Northern France (Lorraine) but went to Rome as a young man and spent virtually the remainder of this long life there. He established landscape painting as a major genre in modern Western art with his serene portrayals of the campagna, generally bathed in a golden light. The impact of these landscapes was heightened by (in effect) an original innovation. Claude's manner was to introduce into the landscapes ruined remains of classical buildings, viewed or glimpsed through the verdure. This is not at all to say that Claude was the first to represent ancient Roman buildings in Italian painting. Many artists previously had depicted such buildings (as did Claude himself on occasion, and many successors); but they depicted them restored as complete functional buildings (more or less correctly according to their knowledge of classical architecture). Claude's seminal innovation was to include in his landscapes (to heighten the atmosphere) ruined building *qua* ruins. This proved an enormously popular innovation so that Claude achieved great fame in his lifetime, and his pictures were equally sought after far and wide (v fig. 1).

The reason for the popularity of this manner is not difficult to perceive. If ever symbols were direct and self evident, it is so with landscape and ruins. Landscape, the portrayal of nature which is ever renewing, represents "*le retour éternel*", regeneration; while ruins, the memorial of irremediable decay, bespeak the vanity of human wishes ("All is vanity saith the preacher"). Combined they signify the complete (dual) nature of time; at once the great universal destroyer as also the universal healer. And the conjoint image is intensified by local setting of Rome – "the eternal city". "... *Quando cadet Roma, cadet et mundus*".

How could this sobriquet not induce reflection in the "age of sensibility" where the eternal city was full of crumbling ruins and partly overgrown with rural vegetation (e.g. the forum with its relics had become "the cow paddock").

During the 18th century a visit to Rome was the hall-mark of the Grand Tour – a requisite stage in the formation of a civilised man. In this way familiarity with the buildings of ancient Rome become a common place with European intelligent – and this knowl-

edge was received in its setting of natural scenery. Moreover for those who did not make the Grand Tour there were readily accessible views of these ruins in the paintings and drawings of Claude (or these copied/imitated etc.). Also Claude had his successors. Indeed it was quite normal for men of wealth making the Grand Tour to take with them their private artists whose principle mission was to record the ruins visited (as is nowadays done photographically).

Here another stage can be recognised in the development of painting to be of consequence in the care of monuments. This pictorial interest in classical building remains was catered for by depicting ruined buildings as the subject of a painting – i.e. not as an element in a landscape composition, but as a record of a building. The point at issue here is a significant one. Since such paintings (drawings, etchings, water colours, etc.) developed out of the “landscape with ruins” they were artistic compositions in the nature of “ruins in a landscape”, or, at any rate, they were accompanied with (at least traces) of vegetation. In some ways this can be regarded as a convention which carried over from Claude's “landscape with ruins” (and its symbolism) – i.e. an ancient ruin required to be accompanied by incidents of nature for its significance (symbolism) to be fully understood. In the limiting instance such accessories were introduced in the painting, even though not present on the ground.

The manifold expression of this development can be subsumed by reference to the work (etchings, drawings) of Piranesi (1720 - 1778). Piranesi, a Venetian, who like Claude moved to Rome, made the pictorial recording of Ancient Roman building remains his life's work. Of depressive, megalomaniac temperament, his vision was as tormented as Claude's was serene. He envisaged nothing less than recreating for the world the magnificence of Roman construction in its surviving entirety, as his own “monopoly”. It is notable that notwithstanding that his temperament was the very reverse of pastoral, Piranesi's work preserved the rural trappings of verdure and animal husbandry found in Claude. And such was the force and profusion of Piranesi's output that it was instrumental in perpetuating the mode of “natural setting” for ancient buildings (v fig. 2).

Piranesi's activity coincided with the floruit of the Grand Tour and the Age of Enlightenment's connoisseurship of classical antiquities. This developed apace in depth and breadth so that, in fact, Piranesi in mid career found himself outflanked alarmingly. His claim to constitute the “recording establishment” was based on the assumption that classical architecture was *par excellence* embodied in the ruins of Rome and its environs; and accordingly Rome was the ultimate goal of the Grand Tour. However by the middle of the 18th century communications had improved greatly and it was possible for enlightened travellers to consider voyaging to more distant parts of the ancient world. In this way men of taste and knowledge penetrated to Greece and also to other places famous in classical times but currently situated in Ottoman lands (e.g. in Syria or above all in Western Anatolia). Moreover not only were the ancient building remains in these regions visited by individual travellers but organisations were formed for the purpose of mounting expeditions to study and record these ancient ruins. In this way the London Society of Dilettanti from the

middle of the 18th century onwards investigated and published the ruins of the famous cities of Ionia.

This introduced a new stage in the study of ruins where classical building remains were measured or drawn in orthogonal projection with the utmost refinement and accuracy known to architecture of draughtsmanship. Nonetheless the traditions outlined above carried on. The society of Dilletanti, for example, often chose landscape painters, as the most suitable qualified by profession, for conducting fieldwork on the buildings in Ionia. While quite frequently the measured drawings of classical buildings, where situated, continued to be set off by background vegetation sprouting from crevices in the stones after the original landscape manner. This graphic convention was maintained throughout the 19th century when the history of classical architecture became established as a prime field of cultural enquiry; and drawings in this style were still current in manuals of classical architecture at the beginning of the present century (v figs 3,4).

In short the ideal picture of classical ruins received by modern Western European culture was that of ruins in a natural setting (ruins in a landscape) as established and sustained by the traditions of 17th century mannerist landscape painting.

II

Attention is now transferred away from the study and recording of classical building remains to their preservation and presentation as ancient monuments. However, remarks on this latter score are to be set closely against what has been said in the former connection. In short the transition is from a concern with the two-dimensional image of building remains to a three-dimensional concern *in rem* for their fabric; and the purpose is to note how, not unnaturally, as a matter of history the former influenced the latter. It has been remarked that the latter concern did not develop (as logically it might have done) in parallel with the former. Italian potentates of the Renaissance supported the antiquarian studies artists made of ancient Roman buildings, but in no way did they direct attention towards the presentation and preservation of the surviving fabric as ancient monuments (i.e. constructions where human invention and the operation of time have combined to create a quasi-timeless memento of man in time).

Although it is possible to point to earlier, episodic exceptions, the concern developed in a programmatic way fully three hundred years later at the beginning of the 19th century. And not in connection with classical building remains but as a northern European concern for its decaying heritage of Gothic (church) building. What was to be done with the many more or less "monumental" buildings to some degree unfit for or surplus to contemporary functional requirements? Replace them with new buildings or adapt the surviving fabric in some way? If so, in what way? This hard question evoked much hard dispute. And it was out of the controversy (indeed polemics) between Viollet le Duc on the one hand and Ruskin and Morris on the other that a coherent theory of conservation and restoration of monuments emerged. This in effect was that monumentality resided in and only in the ancient fabric and that to attempt to simulate it by other than the preservation

and presentation of the original fabric constituted falsification. Philosophically this amounted to the Aristotelian doctrine of ultimate union of form and matter.

It is somewhat surprising that although the new principles of conservation and restoration of monuments evolved in a specific and limited context, in fact wherever the question came in issue they seemed to be accepted as standard. With respect to classical building remains the newly independent Mediterranean countries Italy and Greece took cognisance of them; moreover they were also applied in European colonial territories, e.g. North Africa. However, it was in the years immediately after the Second World War that these principles became canonised, being promulgated institutionally by international organisations (UNESCO and its subsidiaries). They were in large part directed towards ensuring that the world's cultural heritage of (classical) building remains situated in newly independent (or quasi-independent) nations should be cared for in the most enlightened fashion and to this end study centres were set up (e.g. in Rome) for training and development of expertise. In this way principles were refined and standardised to give rules which were embodied in international conventions.

Little, however, was said about one rule. It was not necessary. Everyone concerned (the "experts") took it for granted; since they were conditioned to do so. It was accepted that an ancient monument appeared to best advantage in a natural (rural) setting, all infringement on this state was to be kept to the absolute minimum. Thus all unnecessary new construction embodied in the monument or within its siting was anathema (obviously as inimical to the historical "affects"). Here it follows to state the obvious, for it is obvious that educated Europeans of the mid-twentieth century (particularly those from northern parts) were preconditioned to the image of classical ruins in a natural landscape setting since this was the (only) image familiar to them from pictures. Thus the idea of a ruined classical monument acquired in two-dimensional representation they strove to express in three dimensions – which expression in turn became itself a new art form, that of restoration of monuments. And this new art form was happiest in its conservation and restoration of ruins in a landscape for ruination *per se* in no way impairs monumentality. Indeed the emphatic importance of the contribution by time to the aspect of a building in many instances positively enhances monumentality.

The gist of these remarks may be summarised as follows. The restoration schemes carried out at the middle of the century in accordance with the then accepted theory ideally expressed the meaning of classical building remains as apprehended by men of sensibility from the Age of Enlightenment onwards: a meaning inculcated by the tradition of landscape painting with ruins which merged into paintings or ruins in a landscape, and survived in conventional architectural drawings of classical building remains. This meaning was essentially that conveyed by the joint image/symbol of ruin and of landscape – a mirror of human destiny so moving to the contemplative mind.

However images, symbols and their meaning are culturally conditioned. They change, and sometimes in changing times they change quickly. The ideas of conservation and restoration of monuments as systematised at the middle of the 20th century were envisaged in the interest of monumentality itself, or by extension in the interest of salutary effect

this exercised on the enlightened mind. With the democratic mobilisation of material wealth on a world-wide scale conservation and restoration of monuments rapidly became commercialised. It was seen to be a principle factor in “mass tourism” and this latter soon became the ultimate in big business, a dominant institution in the global economy. In this way the symbol and the reality of the natural landscape setting of ancient building remains disappeared from view to be replaced by facilities and attractions for massed tourists. A major antiquities site wherever situated became urbanised in itself. It came to resemble a centre of religious pilgrimage.

III

The preceding remarks have set out as briefly as possible the reason why those concerned with ancient monuments are overjoyed with what they are still able to see when visiting antiquities sites in Western Turkey. This reveals everywhere the absence of developments now general on “Antiquities Sites”. Moreover, the endemic rural setting echoes closely the familiar incidents of European landscape painting tradition discussed previously – indeed it would not be difficult to find interesting parallels in landscape painting to coloured photographs made of these ruins (cf Plates 1 - 4).

It is possible to point to natural factors operating in this connection. Turkey (even Graeco-Roman Western Turkey) is a very large country. In spite of the current building boom it is common experience to travel only a short distance from sizeable modern towns and find oneself in undisturbed rural setting (cf. Plate 1). Thus it is that Graeco-Roman ruins in the area have in large measure retained or acquired the environment of a classical landscape (cf Plates 1 - 4). Moreover Turkey is still basically an agricultural and pastoral country where primary production is partly carried on in traditional ways and from traditional housing – the incidents of which effectively “ornament” the landscape (v Plate 2). However this is not the end of the matter. All of these ancient ruins have come under the care of the Turkish Antiquities Service and according to their interest all have been provided with facilities designed to enhance visiting. And it is apparent that this has been done with care not to spoil their natural aspect. There is no excessive signposting nor offensive modern structures. Rather every advantage is taken of the surviving traditional housing or of the possibility of masking verdure for providing service premises. Obviously this careful regard has been motivated by a very genuine feeling for landscape and the symbol of ruins in a landscape which has been the subject of the present remarks.

On the face of it this is hardly an obvious matter and the question may well be asked why should such an appreciation of and respect for natural setting of classical monuments be manifest in Turkey when it is programmatically disappearing in adjacent regions owing to the dictates of mass tourism. Certainly no one suggests extending the previous analysis of a popular familiarity with Western landscape painting of the “Classical landscape with Ruins” type. However this does not rule out the general issue of a connection between painting and development in restoration. The fact that landscape painting has been of such significance in developing Western attitudes towards the presentation of ruins at

least suggests considering the significance of landscape painting in Turkish culture. As anyone knows, who has had to devise restoration projects, this work is more akin to painting than to architecture. There is in both the primacy of aspect over function – or, perhaps, the function is primarily aspectual. And the surprising sympathy which prevails in Turkey for the natural setting of monumental ruins seems, indeed, another instance of this connection between painting and restoration of monuments.

Something has been said about the development of landscape painting in modern Western European Art. However it must be pointed out that this is not at all a universal development. Landscape as a genre developed in certain cultures – in others it did not. One area where it appears never to have been prominent is in the Middle East. In mediaeval and modern Islam the regional tradition was the miniature – and this was figural, narrative, transcendental, not naturalistic. Yet in the vast field of Islamic painting, Turkish (Ottoman) painting shows an exceptional concern for naturalist landscape.

In the first place, within the traditional Islamic painting, Turkish painting includes a category which can only be termed “landscape miniatures”. During the golden age of Ottoman conquest the war machine included painters to “take the likeness” of military objectives etc. (standard reconnaissance intelligence work, only recently taken over by photography). And the production of these artists constituted a type of landscape painting. They were of undoubted aesthetic appeal and the subject was the vista, the *veduta*, quite devoid of any figural interest (cf the *Beyan-I-Menazel-I-Sefer-I-Irakeyn* of Nasuh el Matraki, recording details of Suleiman the Magnificent's Irak and Azarbaijan campaigns, 1534-36).

However the striking fact is the readiness and enthusiasm with which Western landscape painting was received in Ottoman Turkey of the Reform Era. During the nineteenth century progressivist policy saw European art training as a tool of practical significance in the advancement of a new modernised Turkey. Instruction in Western Art was established in high schools and above all in military academies, for which purpose Europeans were engaged as art masters. In the latter instance, art in military service, the history of three centuries earlier was paralleled. The attraction of art for art's sake proved so strong that many officers/cadets who received this training abandoned their military career for art, or in some instances accorded it second place to art in their enthusiasm. In any event by the middle of the century numbers of Turks had been sent or gone abroad (to Paris) to acquire training in painting – and, indeed, during the sixties the Ottoman school or centre (*Mekteb-I-Osmanlı*) was established in Paris to promote this. The important part played by military officers (artillery and engineering) in the establishment of the first Turkish school of European painting is expressed in the name given to the school “the Military Painters”. Together they established a genre of sensitive, naturalist landscape painting (v. fig. 6). And, although, of course, modern Turkish painting has subsequently absorbed and reacted to many other modes, landscape, which accorded immediately with Turkish feeling, has always remained popular.

Here is revealed the significant aspect of the Turkish character, that sensitivity to nature, which is so manifest today in the presentation of ruins in a landscape. To men of

such temperament the place for ruins *is* in a landscape so as to provide the ultimate of realisations: the triumph of time.

*“ O world, O life, O time
Upon whose steps we climb “*

Thus it is in the withdrawn dells and glades of Caria and Phrygia ghostly echoes are heard of European voices – musing on man and his works; their setting in nature which conjoins time place. All expressed in ruin, the universal destiny. Goethe and Gibbon, Byron and Shelley. Memorable words – these echoes driven away from Rome and the Campagne to another continent.

First follow nature and your judgement frame

I loved not man the less but nature more

*Rome has fallen, you see it lying
Heaped in undistinguished ruin
Only nature is undying*

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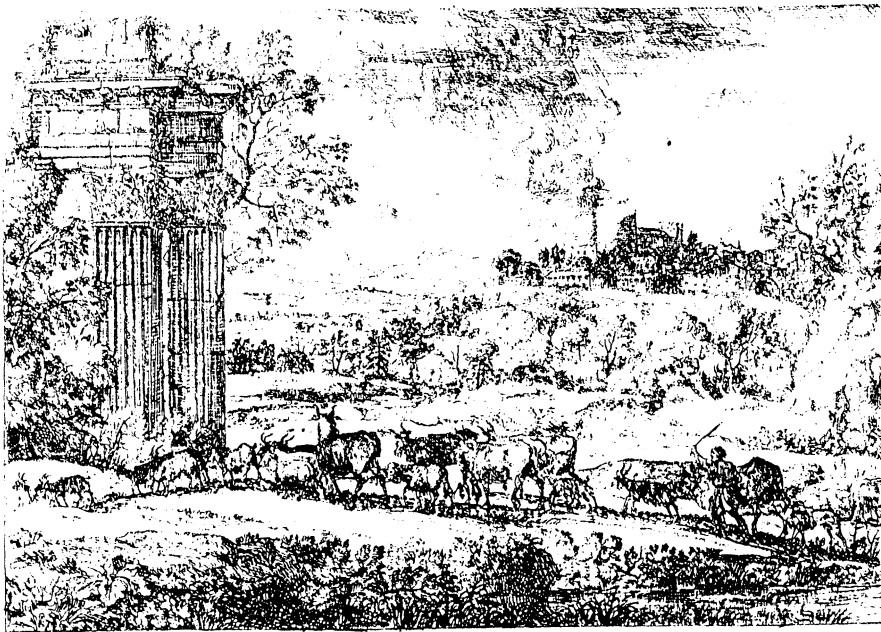
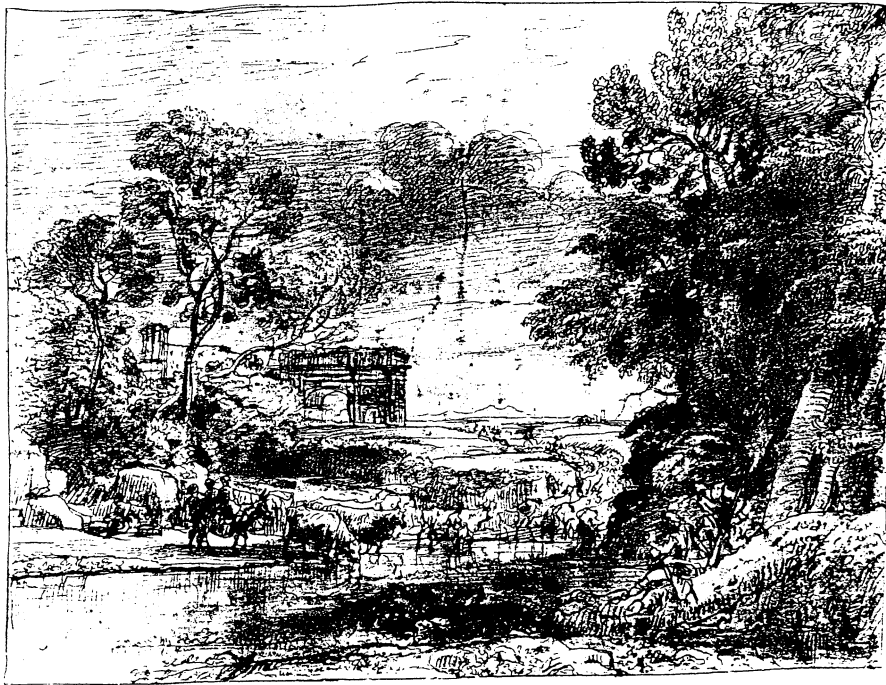


Fig. 1. Claude(1600-1682). Drawings. Studies for Campagna Landscapes with Ruins. Claude in these landscapes variously depicted ruins standing in the vicinity or (as here) incorporated (well known) ruins located elsewhere. Notable is (*above*) the Arch of Constantine imported from the centre of Rome as ideally appearing more fittingly in a rural setting. This latter mode Claude termed a “caprice” (*capriccio*) which established a genre.

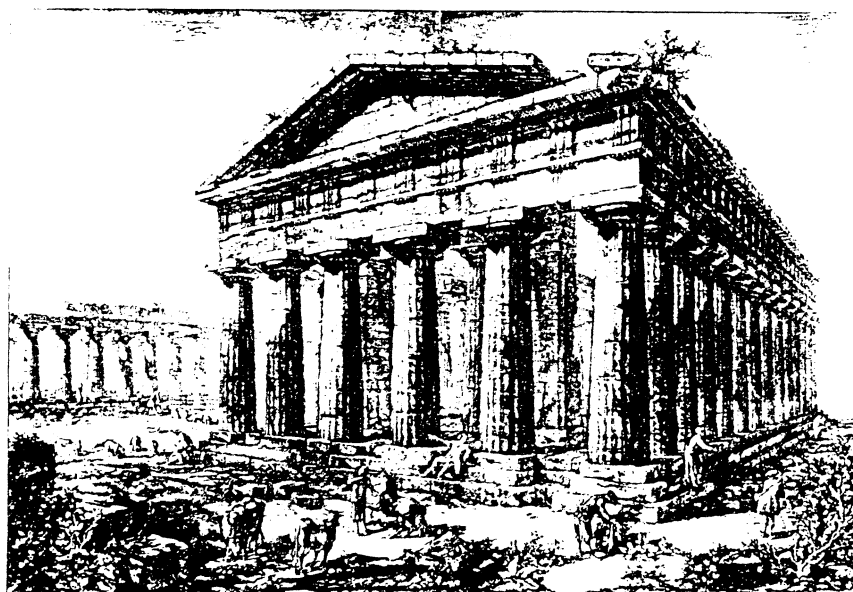


Fig. 2. Piranesi (1720-1778). Drawings. Studies for etchings of ruins at Paestum. It is probable that rural ornament is according to mode and to some degree adventitious.

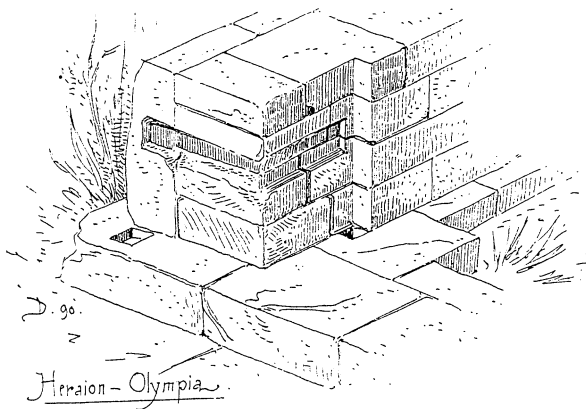
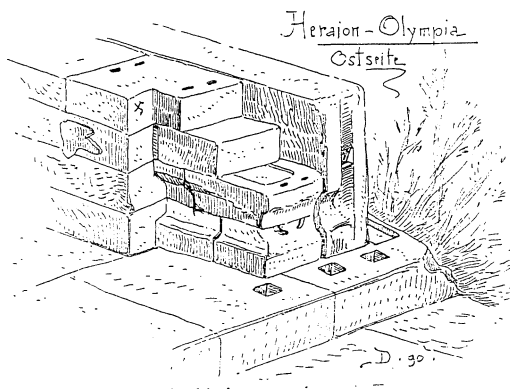
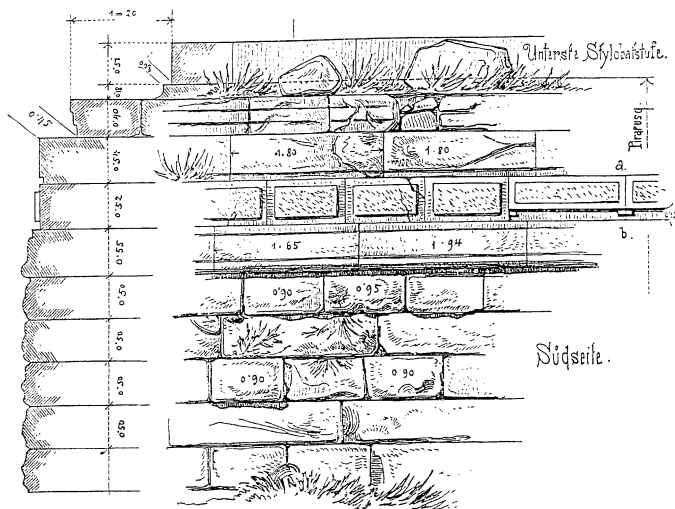


Fig. 3. Temple of Segesta. Detail of order. Choisy's drawing (1869) as reproduced in *l'Art de Bâtir chez Les Romains*. Paris 1873. NB. in this and the following two illustrations the largely adventitious presence of foliage as a convention going back to the art forms of Claude and Piranesi.

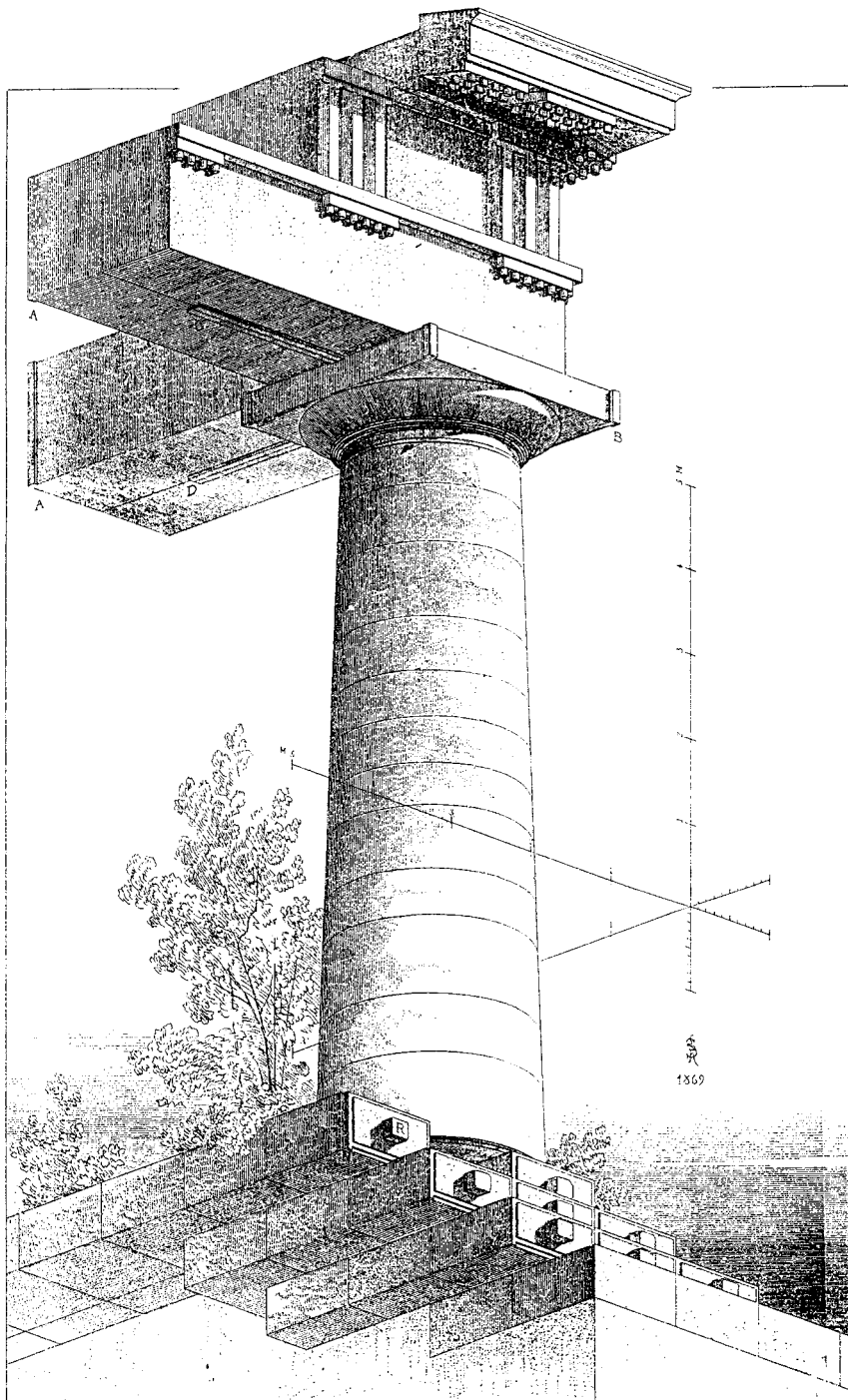


Fig. 4. Masonry details from Paestrum (*above*) and Olympia (*below*). Durm's drawings (1879-1890) as reproduced in *Handbuch der Architektur I. Die Baukunst der Griechen*. Darmstadt 1892.

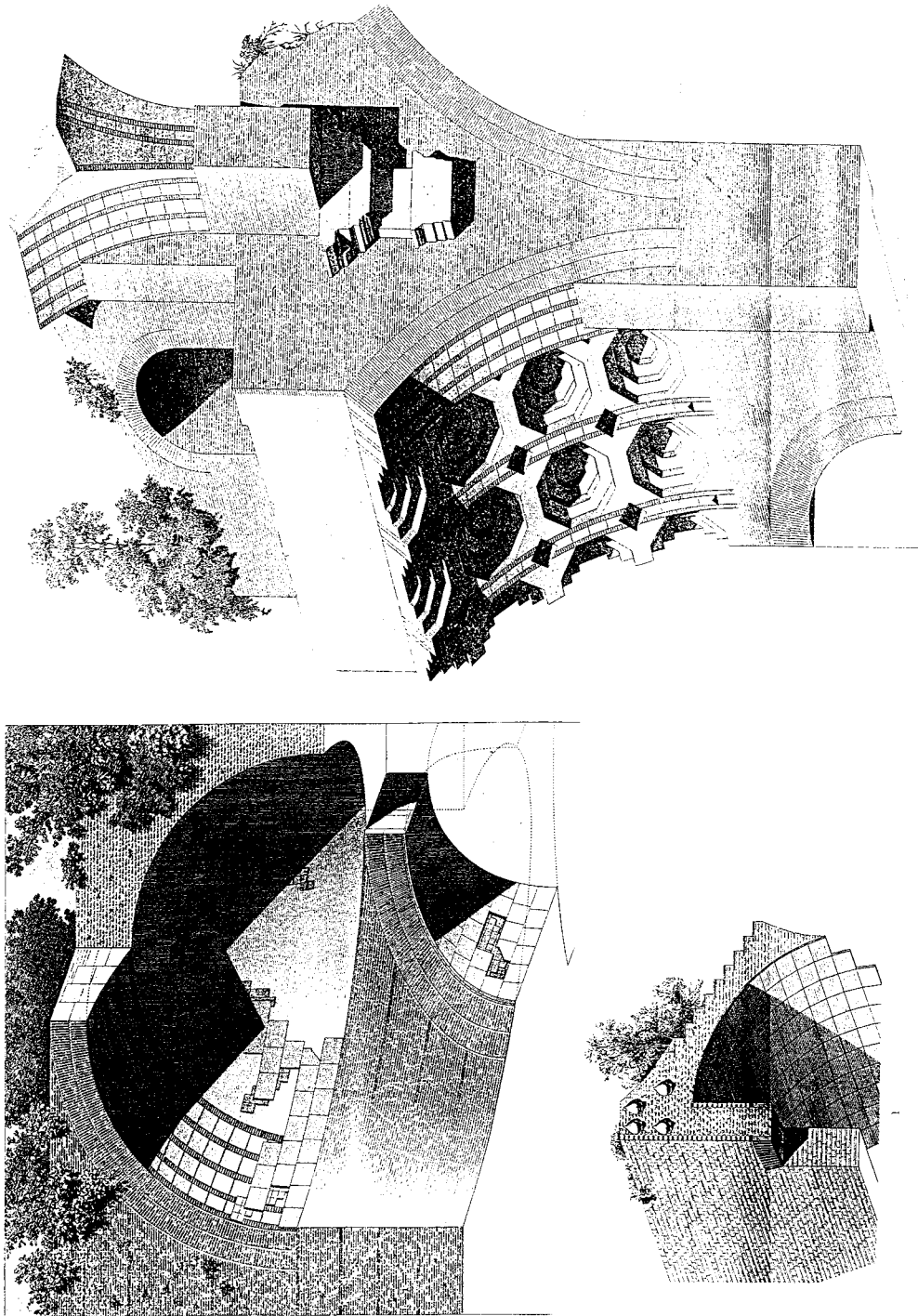


Fig. 5. Roman Concrete Construction Details. Choisy's drawings as reproduced in *L'Art de Bâtir chez les Romains*, Paris 1873.

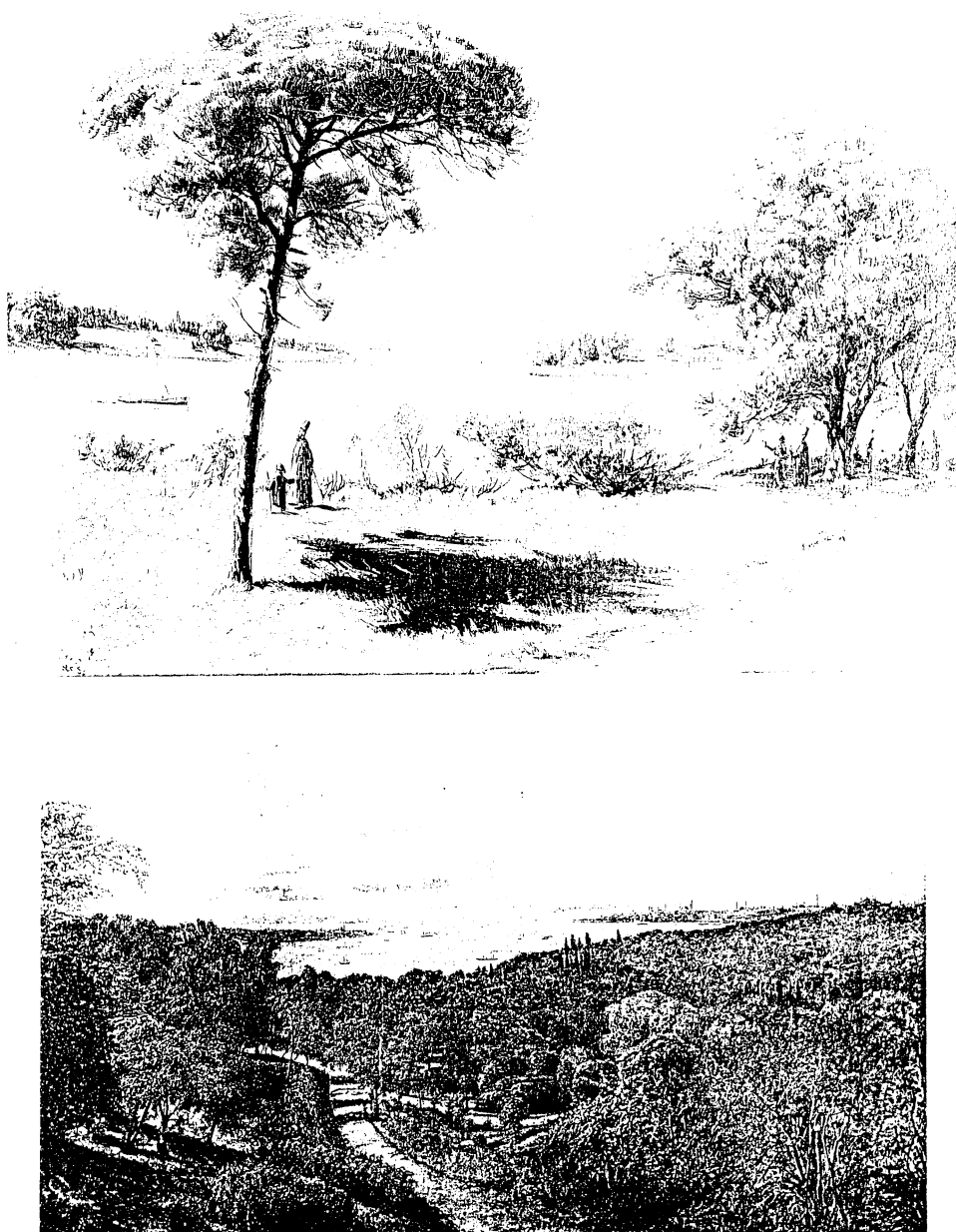


Fig. 6. Late Ottoman Landscape Paintings in the Western European Tradition. Such technically accomplished paintings achieved immediate popularity. Works of Hoca Ali Risa 1905 (*above*) and Hüseyin Zekai Pasha 1898 (*below*) reproduced in Sabancı Collection. Istanbul 1995.

NB Hüseyin Zekai Pasha who began his career in the military academies provides a good example of the links in Turkey between landscape art and antiquities. He was recognised equally as a painter and as an antiquarian, and accompanied Kaiser Wilhelm on his tour in the rôle of antiquities expert. In this double expertise he matches his more famous contemporary, Hamdy Bey, well known in archaeological literature as the first director of the Imperial Ottoman Archaeological Museum and Antiquities Service, but also a fine painter who studied art in Paris for 11 years and was equally director of the newly founded Imperial Ottoman Academy of Fine Arts.



Plate 1. Views from the Carian Antioch over the Meander River. Note the absence of modern construction and the pastoral atmosphere.



Plate 2. Ruins of theatre at Alabanda in rural setting “ornamented” with livestock (*above*) and with traditional building (*below*).



Plate 3. Ruins of Temple of Hecate at Alinda in rural setting free of “ancient monuments” site installations.



Plate 4. Ruins of Nyssa in undisturbed rural setting.

INVESTIGATIONS AT MENTEŞE HÖYÜK IN THE YENİŞEHİR BASIN (1996-97)

Jacob Roodenberg

Introduction

In the course of the Ilıpınar excavation program, conducted by the author, the need was felt to test data from its early farming occupation with a contemporaneous settlement in the same region. These data, comprising the absolute and relative chronology, architecture and spatial analysis, paleoenvironment and economy, were in part quite unexpected, when examining, for instance, the well-preserved mud-and-wood architecture, so that verification digs in the neighborhood became extremely desirable. Considering that Menteşe in the nearby Yenişehir basin was supposed to hold substantial Neolithic occupation remains, the choice fell on this *höyük* (fig. 1). A cooperation was set up between the Iznik Museum, headed by Mr. Taylan Sevil, and the Ilıpınar team with the aim to initiate test excavations. This cooperation turned out to be beneficial as the Iznik Museum provided mediation for contacts with landowners and local authorities, while the undersigned could spend his time on the dig.

The focus of this brief report is to give, at the present state of research, a preliminary evaluation of Menteşe's chronology on the basis of its stratigraphy and a rough estimation of its material culture. The ultimate goal of the investigations at Menteşe, i.e. to assess the degree of variability in the material culture of two communities from the same chronocultural horizon, can only be reached after more work has been done in the field and the laboratory.

Menteşe, formerly mentioned by Bittel (1955), Mellaart (1964), French (1967), and Özdoğan (1984), is situated at the foot of a 800m high mountain ridge which stretches between the Yenişehir and Iznik lake basins. Until recently there was a shallow lake in the lower part of the plain not far from the site (Bottema 1995:11). Nowadays this part is still marshy in spite of drainage channels. This makes the environmental situation quite similar to the location of Ilıpınar, where the shores of Iznik lake were nearer to the prehistoric village than today (Kayan 1995:25).

At present Menteşe is a rather small circular mound of ca 100m in diameter which rises 4m above the fields (fig. 2). Being one of the few mounds with a Neolithic occupation, not only in the Yenişehir basin but in the entire coastal area and hinterland east of the Marmara Sea, it was supposed to conserve precious evidence of the earliest sedentary life of the region. Unfortunately, in the recent past damage was caused by the building of an asphalt road running through the mound, splitting it in two nearly equal parts, and by the construction of a high tension pole on its northeastern section. Besides, mechanized seasonal plowing constitutes a

continuous process of degrading the archaeological deposit.

The excavations

Preliminary work at Menteşe höyük started in the fall of 1995 after the excavation season at Ilıpınar had ended, but the proper excavations took place in the summers of '96 and '97 during 3 respectively 4 week seasons. In the centre of the mound, north of the asphalt road, a field was rented and a 9 x 4,5m small sounding trench was dug 60cm deep revealing all of a sudden, an unpleasant attribute of the site: its damage by countless field voles. This is why trench profiles did not hold through even a single winter season and why 'late' artifacts could be found at a substantial depth in an 'old' context. Not content with its natural action range running over 1.50m below ground level, this rodent followed the excavators down the trenches where it even dug holes in the freshly cut trench profiles at 2.50m deep. It is not surprising that the rare archaeological features of the upper levels had suffered from their tunneling.

During the seasons in '96 and '97 the excavation was extended to two adjacent 9 x 19m trenches, JK15 and JK16, separated by a 1,5m wide baulk (fig. 3). Yet since features even at a depth of 1.5m below ground level turned out to be nearly absent, it was decided thereupon to concentrate investigations in the initial sounding trench SSK15 (fig. 4). After the contours of buildings had become finally apparent here at a depth of 1.80-2.00m below ground level, the area of excavation was enlarged again. As a result, another portion of the village plan was discovered in a 3m wide strip along the north baulk of JK15.

Stratum I

Underneath the 30cm thick plow zone there was a grey loose soil containing fairly large quantities of handmade prehistoric pottery sherds and occasionally a few wheel-made second millennium, as well as Roman sherds. Finds here and there condensed to levels – likely ancient trodden surfaces as courtyards or fallow ground within the settlement boundaries¹. Striking is the paucity of building remains in what seems to have been the centre of the prehistoric village which for one reason or another remained unbuilt for a period of time. The fallow ground must then have risen following the accumulation speed of the surrounding built-over ground at the usual rate of three mud-and-wood buildings per century. The many ditches observed at different levels in the trenches must have been dug for drainage of the village ground. These were often noticed by their fill of burnt rubble which evidently originated from torn down ruins in the vicinity.

In trench JK15 the first occupation level was encountered at 50-80cm below surface level. It consisted of the remains of an oven and a square fireplace standing on a burnt surface (fig. 5). As walls were absent, it seems these immobilia must have furnished a courtyard which was delimited to the west by a fence of stones. At a right angle to this row of stones ran one of the above mentioned drainage ditches. At a later stage this ditch was filled with chunks of

¹ A number of trodden surfaces were encountered during the dig. Given their limited value for the understanding of Menteşe's stratigraphy, only a few are described.

mud from a burnt down building. The common pottery is well known from Ilıpınar's phase VA, which marks the village's final extension. The rectangular stone bed RA (fig. 5) was dug into the prehistoric levels and built as a tomb. Originally it's four sides had been surrounded by piled-up cobble walls (fig. 9). Both the length of the tomb and the position of a few human longbones left on the stone bed indicated that the dead had rested in a stretched position on the back; this makes a 'late' age determination – Roman – most plausible. The absence of any object, and most of the skeleton suggests the tomb had been plundered.

In an attempt to investigate a larger exposure a combined excavation was carried out in the adjacent 19m long trenches JK16 and JK15. At 1.30 to 1.60m below ground level another trodden surface was exposed. It was identified by a higher concentration of finds, mainly pottery and animal bone fragments, by clusters of stones and patches of burnt rubble cut by a ditch (fig. 6). Apart from this, as the trenches, when they were levelled further down, remained void of more significant features such as building remains, investigations were concentrated on JK15, in particular on sounding trench SSK15. More ditches were encountered in trench JK15, where they became numerous at a depth of 1.80 below surface level (fig. 7). These ditches were presumably dug for the evacuation of rain water and drained to the western edge of the settlement. They are reminiscent of ditches found in Ilıpınar's earliest village ground, which were also interpreted as evacuation channels (Roodenberg and Alpaslan-Roodenberg, 1999b).

Stratum 2

The deepest of these ditches, YF, hit the top of a red rubble deposit recognized as the destruction layer of a preceding village phase. This rubble was covered by a 20-30cm thin layer of velvet black ash lenses called stratum 2, whose genesis could be explained as the effect of repeatedly burning off stubble fields after crop harvest (cf. fig. 8). If this view is correct, it implies that at that time the mound was part of the cultivated fields. Furthermore, the lack of significant sedimentation is a strong indication that the mound was entirely deserted as a dwelling place. Considering the estimated age of stratum 1 and the aforementioned destruction layer (see 'Dating the strata') stratum 2 represents a time span of several centuries.

The drilling

Before work was resumed in the initial sounding trench SSK15, a drilling was made in its southeastern corner to measure the volume of Menteşe's archaeological deposit. It appeared that the mound's original height had been at least 5.5m. Considering its present elevation of 4m above the surrounding fields, this indicates that a 1.5m thick layer of colluvial soil conceals the foot of the mound reducing its circumference to the present diameter of 100m.

The burials

In sounding SSK15 five burials were excavated, four of them were buried on top of or were slightly dug in the above mentioned burnt rubble layer of stratum 3 (fig. 11). The burial pit of number 5 (burial UA) was located 60cm above the burnt layer and had been dug from

a level that was at least 1m higher, as could be distinguished in the east profile (fig. 8). The dead from UA, buried as usual in a Hocker position, was accompanied by a clumsily made vessel (fig. 10:1). Traces of decayed wood were found under the skull, hands and feet suggesting that the body had laid to rest on wooden boards, a practice known from the Neolithic burial ground of Ilipinar (Roodenberg, 1999a). Another awkward vessel, although different in shape, was collected from a burial found in the eastern portion of the baulk separating trenches JK16 and JK15 (fig. 10:2). This individual was buried at an even higher level. The individuals accompanied with vessels, a rare phenomenon in the context of this period, may have been inhumated approximately at the same time, whereas the five remaining who rested at a deeper level probably preceded them. In the western part of JK15 two more burials came to light (UG and UB), which were also without grave goods. In spite of different elevations, all the burials are believed to belong to stratum 1, which can be correlated with Ilipinar VA. From a child burial (UE-SSK15) tiny stone beads were collected, presumably belonging to a necklace.²

Stratum 3 (fig. 11)

One of the burials had been dug through the red rubble layer and hit the western wall of a building, more than half of which laid under the eastern profile. The visible part, however, gives a notion of the building plan: well known from the earliest levels at Ilipinar, it is an ordinary dwelling with a square or rectangular groundplan measuring approximately 5 x 5m. In its southwestern corner there was a carbonized stub at equal distance from the western and southern walls, presumably the remainder of a pillar which had supported the roof. If the pillar stood on the central axis, the width of this building would have measured 3.5m only, but if there had been two parallel axes in the inner space, the width would have been 4.8m. The pillar's counterpart in the northwestern corner was missing.

Walls were made of pisé or mud slabs in which 4-5cm thin posts or stakes were planted. These stakes probably had carried mud lined wickerwork which had made up most of the wall. On the outside of the southern wall there were two posts that may have belonged to the roof construction. On the mud floor inside, which was preserved for the greater part, stood some pottery vessels. Their shape and make recall pottery from Ilipinar's oldest occupation levels. In the centre of the floor the contours of a wall were noticed; running north-south, this wall likely represents a preceding building horizon. In the northwestern corner of trench SSK15 the angle of another building was unearthed approximately at the same level as the former. The discovery of architectural remains in SSK15 encouraged the excavators to search for the continuation of this building horizon. Therefore, a 3m wide strip was leveled down along the northern baulk of JK15 exposing – though fragmentarily – the continuation of the latter and, unfortunately only the south walls of two more buildings, since the major part of the buildings lay outside the trench. Against the southern wall of the first building there was a mud paved courtyard with fragments of a few small circular mud-lined

² For a detailed study of the human remains see the report from Alpaslan-Roodenberg and Maat in this volume.

baskets and square basins. Walls of these buildings were made of yellow mud slabs, 25 to 30cm wide and preserved up to 20-30cm high; in section their irregular structure of piled up mud slabs was clearly visible. Whether these walls were topped with wickerwork constructions as could be seen in SSK15 is uncertain; anyway no charred stakes or holes were noticed. The southern walls, the only walls for which length could be determined, measured 5.5 and 6.5m respectively. Rows of charred stakes set in piled mud were observed close to the north baulk. They were probably part of preceding constructions. Another row of stakes and a circular oven hint to the presence of a courtyard along the westernmost building. Ditch YF obliquely cutting through the building horizon was part of a drainage system that belonged to stratum 1.

Dating the strata (fig. 8)

Hitherto only two radiocarbon determinations are available from Menteşe, namely from the middle of stratum 1³, whereas the samples from stratum 3 are still in process. Hence comparison with Ilıpınar's well stratified material culture is still a welcome supplement to a primary assessment of Menteşe's chronology.

Surface finds have shown that the mound and its wider surroundings were somehow occupied during the Roman period. A testimony of this presence is probably the already acknowledged cobble stone tomb dug into stratum 1 (fig. 9).

Some admixture of wheel-made (Middle Bronze Age and Roman) pottery was observed in the upper part of stratum 1. The major proportion however consists of handmade pale (grey and beige) burnished wares, among which a few types are directly related to the pottery range of Ilıpınar's phase VA. These are sharply carinated bowls with common excision patterns as illustrated in fig. 12 (lower half). Also frequent are jars with everted rims on which two vertical handles are fixed (fig. 12, upper half). In addition, slightly younger pottery fragments, especially a very typical plate with fluted decoration patterns on a thickened rim (fig. 10:3-5), evoke the very end of phase VB at Ilıpınar (Roodenberg and Alpaslan-Roodenberg, 1999b). Though, given the sporadic occurrence of the latter type, we assume that the corresponding occupation, which seems to have had a semi-permanent character at Ilıpınar, will be difficult to attest.

As it also appears from the radiocarbon determinations, stratum 1 equals phase VA of Ilıpınar, but its rather important volume (1.60m thick) could have accumulated during a slightly longer period of time than the century calculated for the formation of Ilıpınar VA (5600-5500 cal. B.C.). Assuming that this is correct we still witness a sizable time gap between strata 1 and 3. Since the village of stratum 3 can be tentatively correlated with Ilıpınar X (fig. 13), this gap encompasses three centuries. In stratigraphical terms this hiatus in the cultural sequence may be embodied by the 20-30cm thin deposit of ash lenses of stratum 2, from which one concludes that the village ground at that time was not built-over but integrated in the arable land system. Below the architectural remains reached in stratum 3 about three

³ GrN-22790, Menteşe J16-055, 6800+/-90 BP, and GrN-22789, Menteşe J16-049, 6630+/-90 BP, respectively (1sigma) 5720-5580 and 5580-5440 cal. BC.

more meters of accumulated village ruins await further investigation. It is our intention to resume excavations of Menteşe's earliest village levels in the nearest possible future, because they undoubtedly offer a chance to learn new facts about the first sedentary population of the Marmara region.

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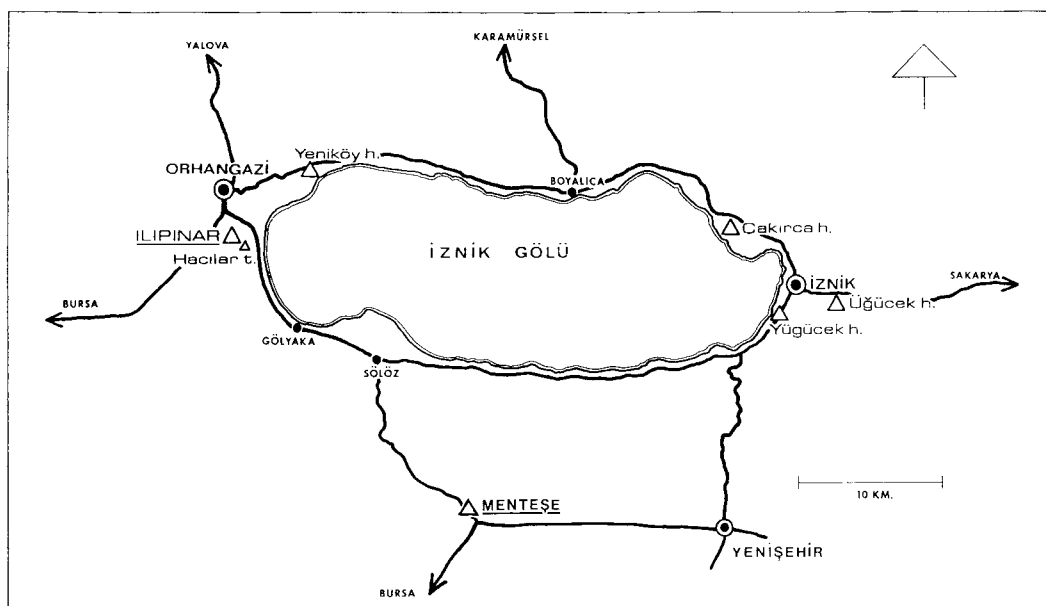


Fig. 1. The Iznik-Yenişehir region, NW Anatolia. Triangles indicate prehistoric settlements.



Fig. 2. Menteşe on the fringes of the Yenişehir plain.

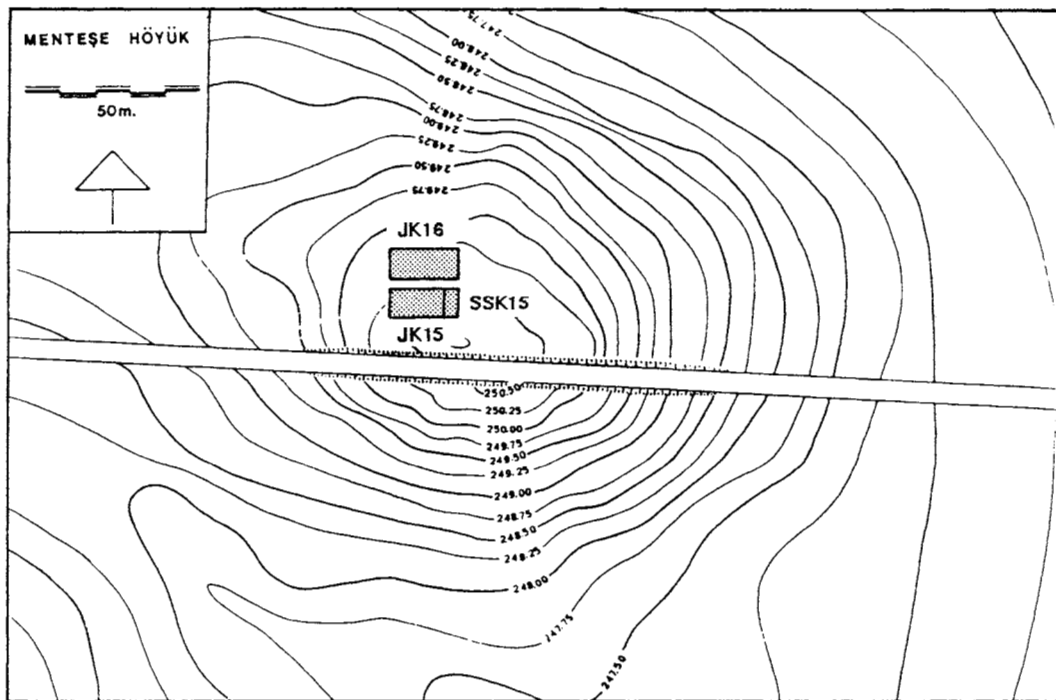


Fig. 3. The settlement mound cut by an asphalt road. The excavation trenches are located on the northern half.



Fig. 4. Sounding trench SSK15 seen from the east.

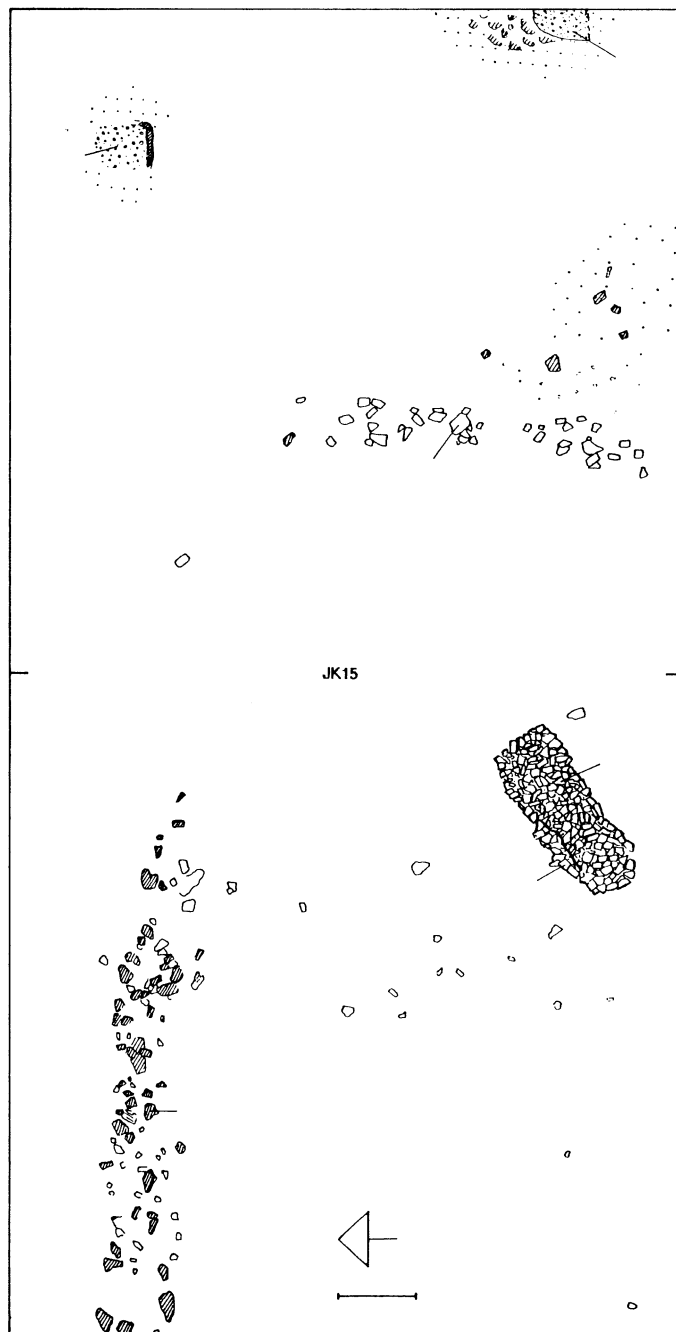


Fig. 5. Trench J15, stratum 1. Highest trodden surface with remains of an oven and fireplace (above). Stone cobble floor from a – probably Roman – tomb (center right).

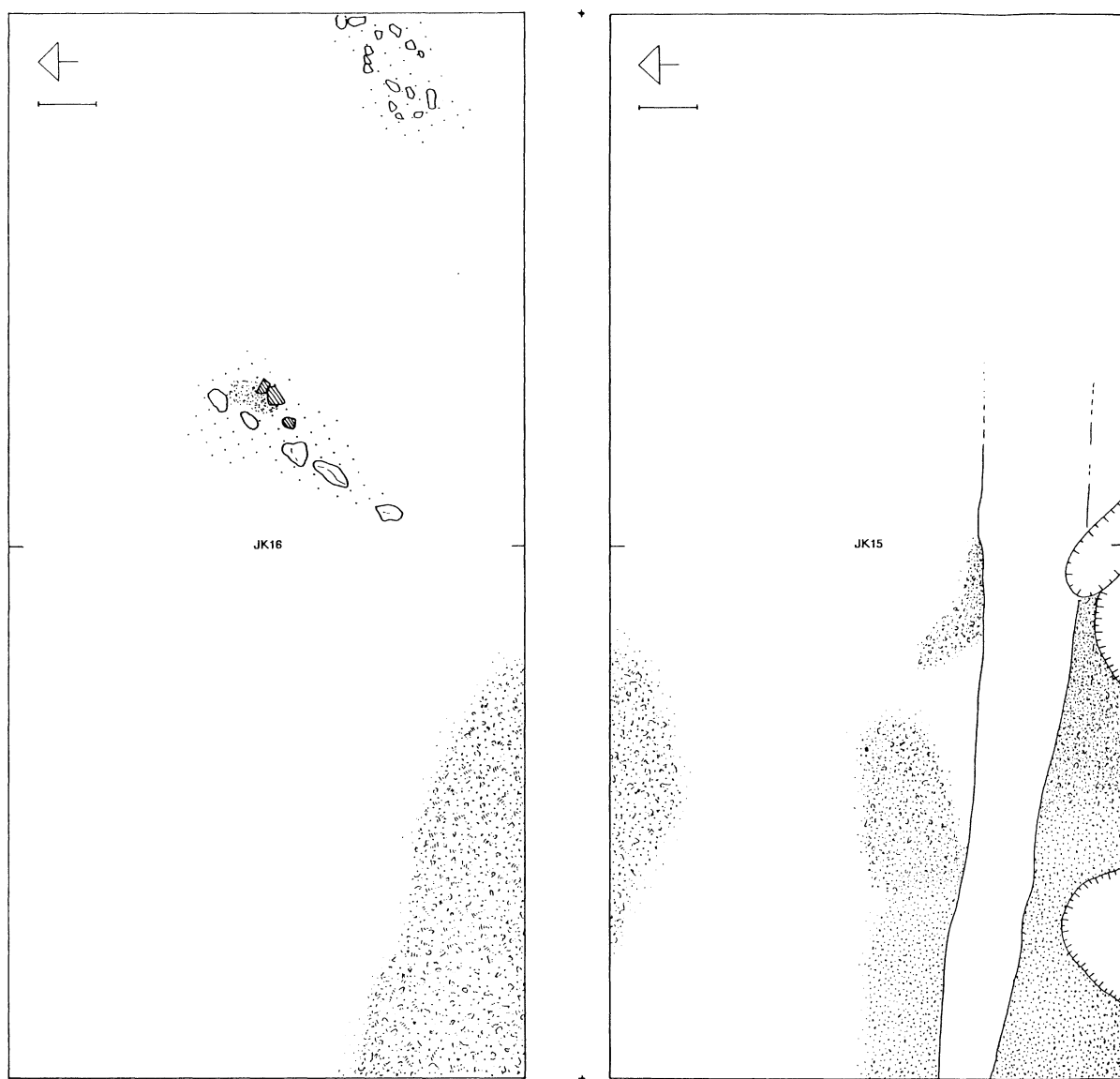


Fig. 6. Trenches JK15 and 16, stratum 1. Trodden surface 1.30-1.60m below present surface.

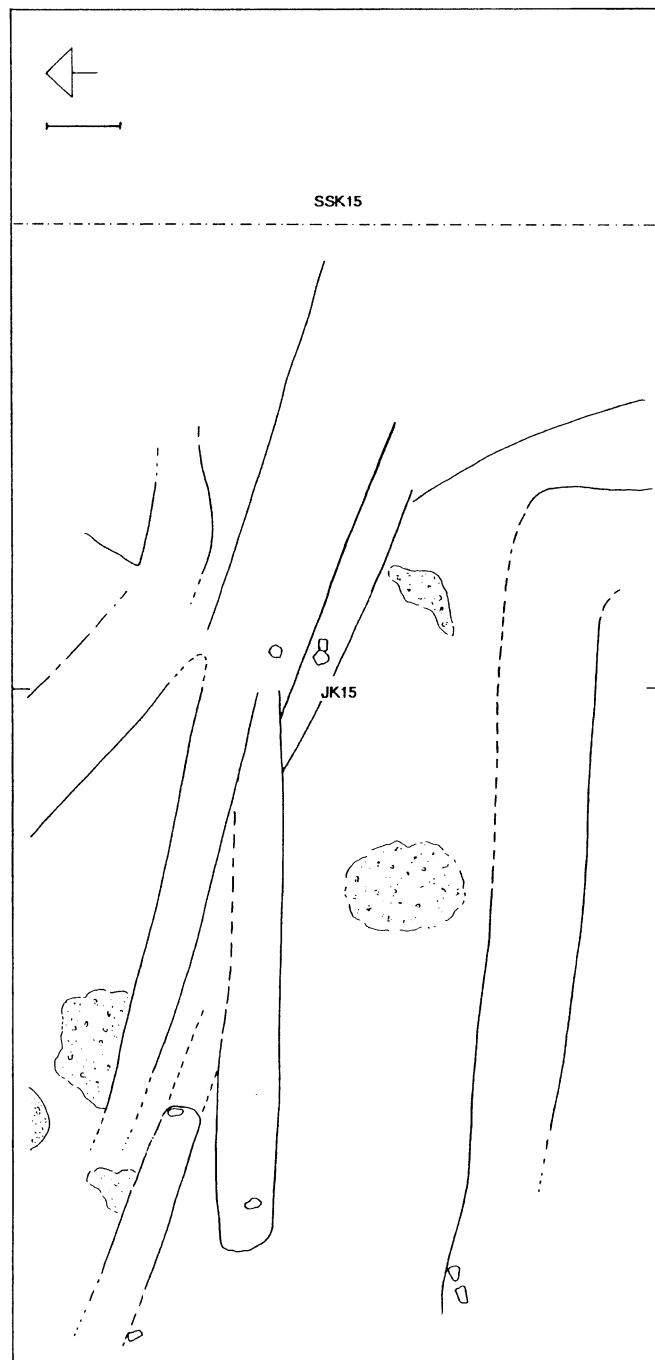


Fig. 7. Trench JK15, bottom of stratum 1. A number of ditches, likely dug for drainage.

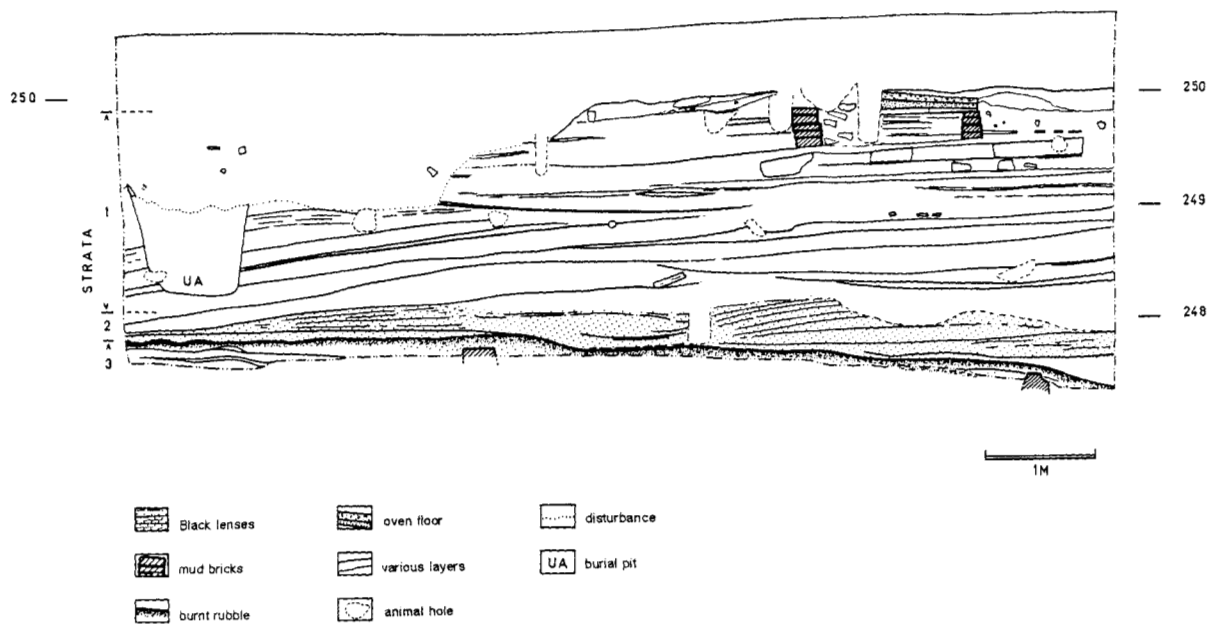


Fig. 8. East profile of sounding trench SSK15.



Fig. 9. Stone cobble floor from a – probably Roman – tomb.

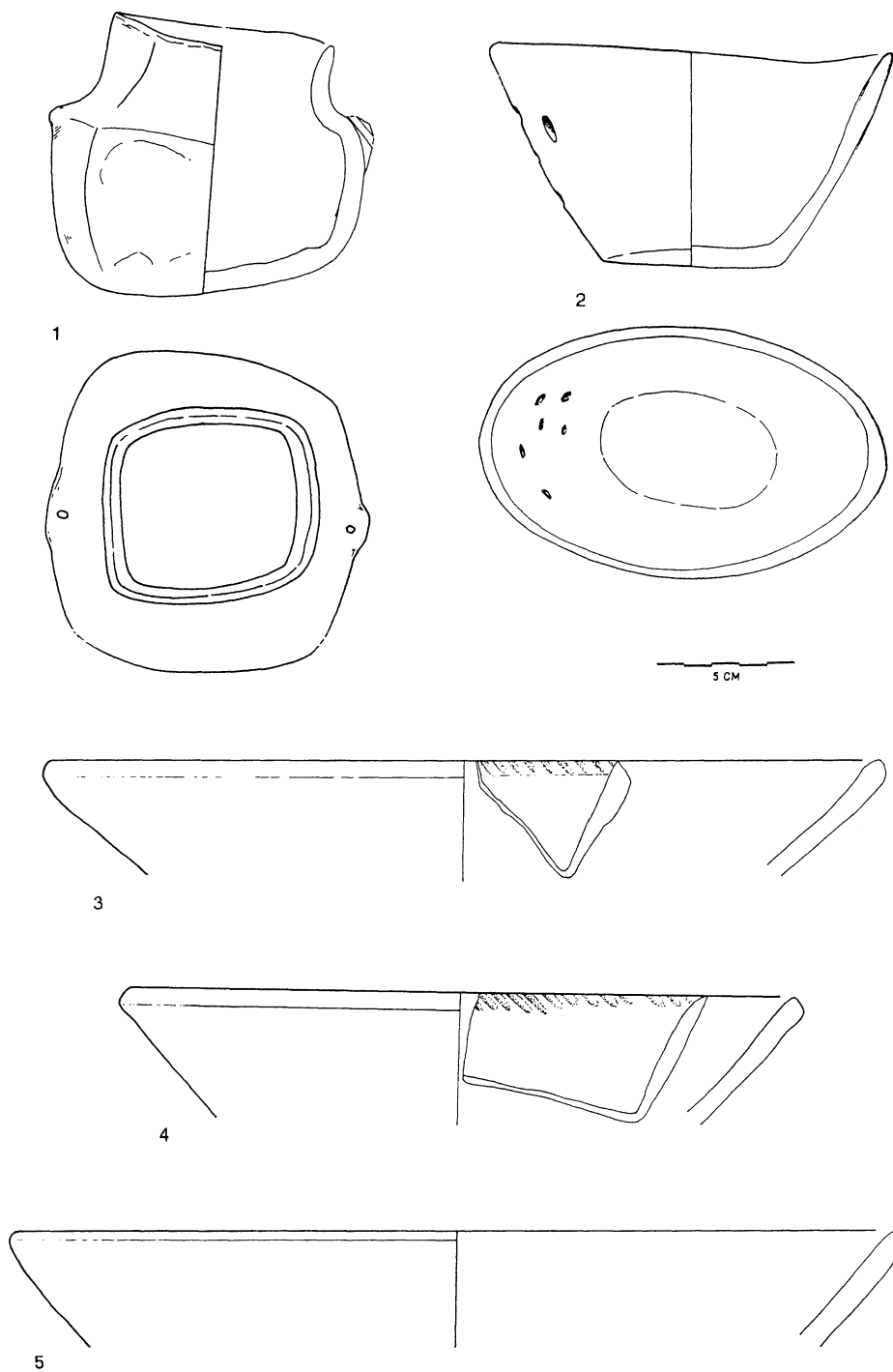


Fig. 10. Nrs. 1-2: Pottery vessels found in association with adult burials UA-SSK15 and UA-JK16 respectively.
 3-5: Plates with ripple decoration on the inside rim from upper part of stratum 1.

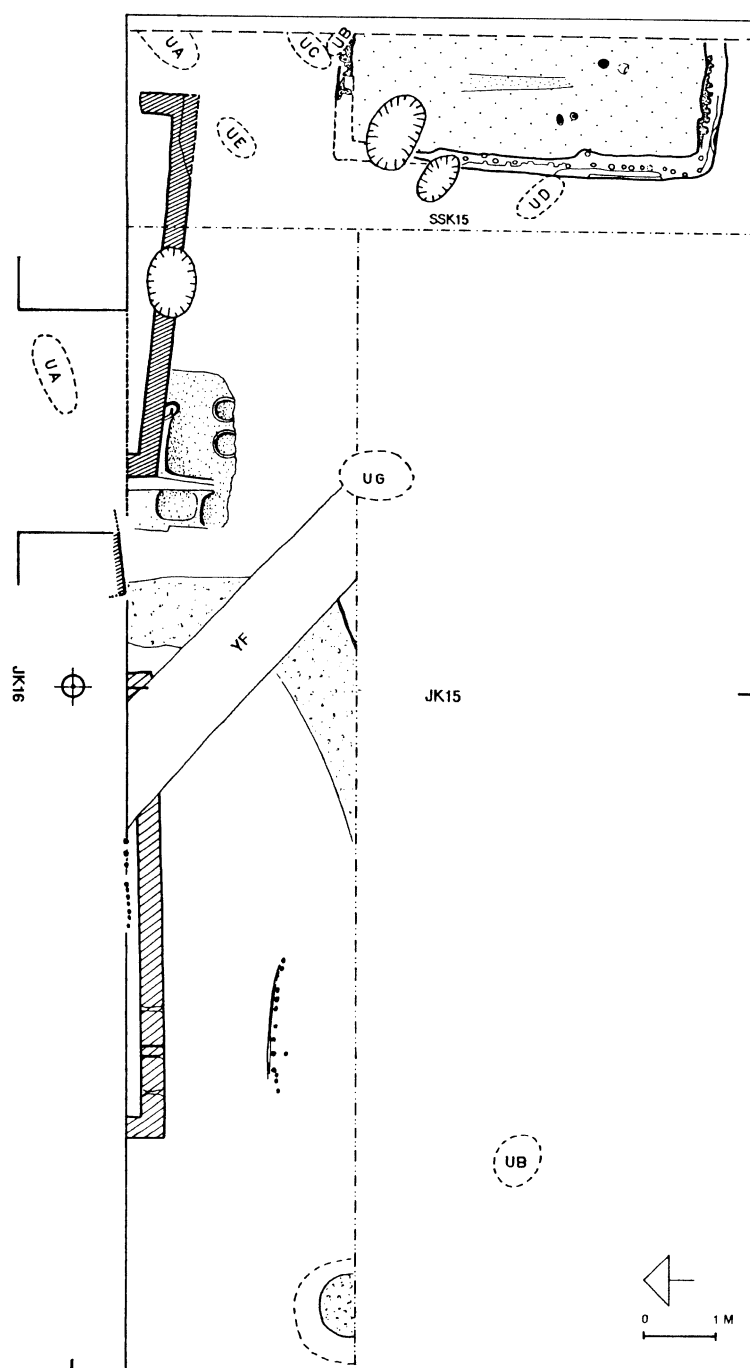


Fig. 11. Trench JK15 including SSK15, stratum 3. The first substantial architectural remains encountered at Menteşe. UA-UG are burials from stratum 1.

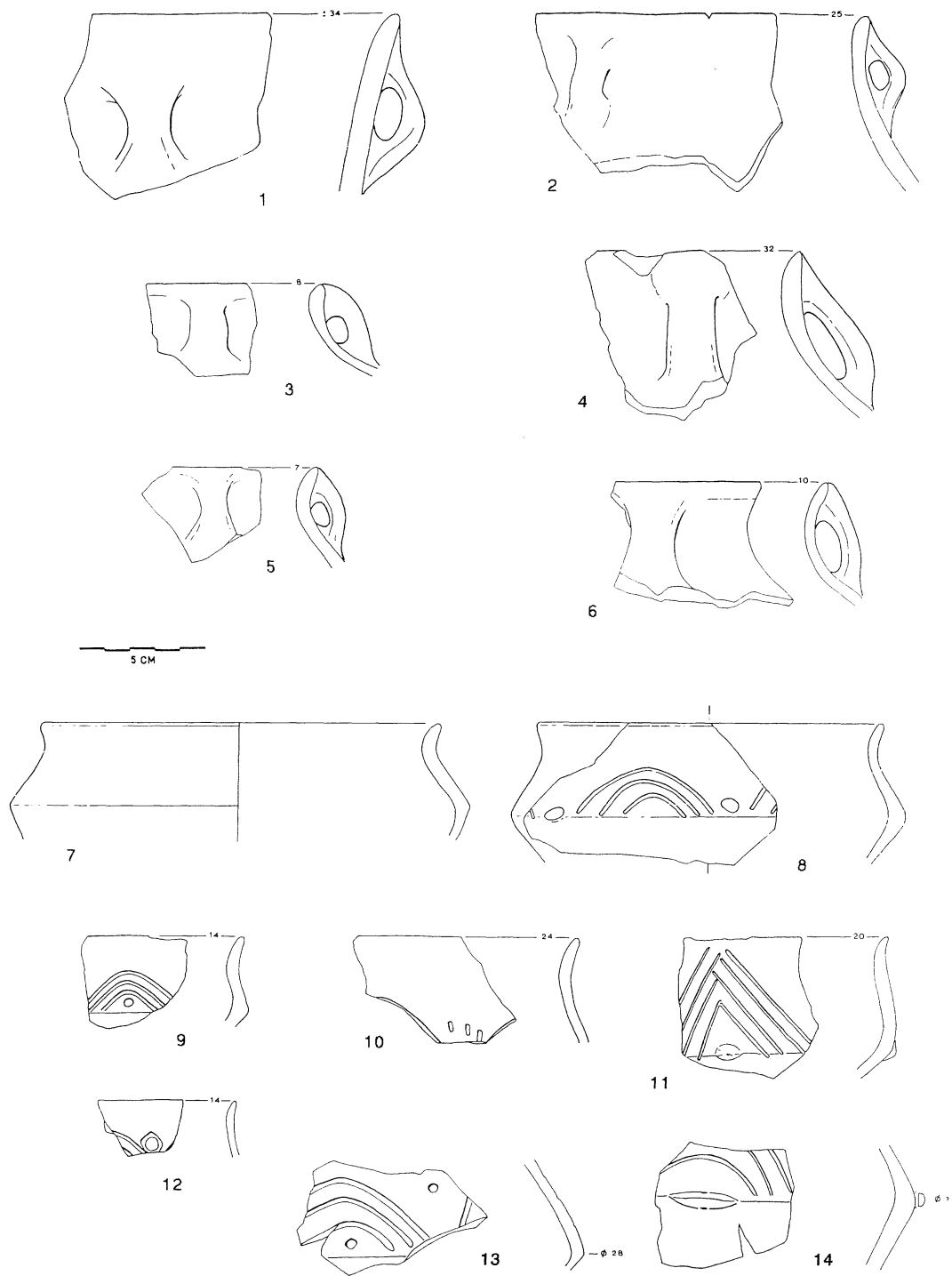


Fig. 12. Pottery from stratum I.

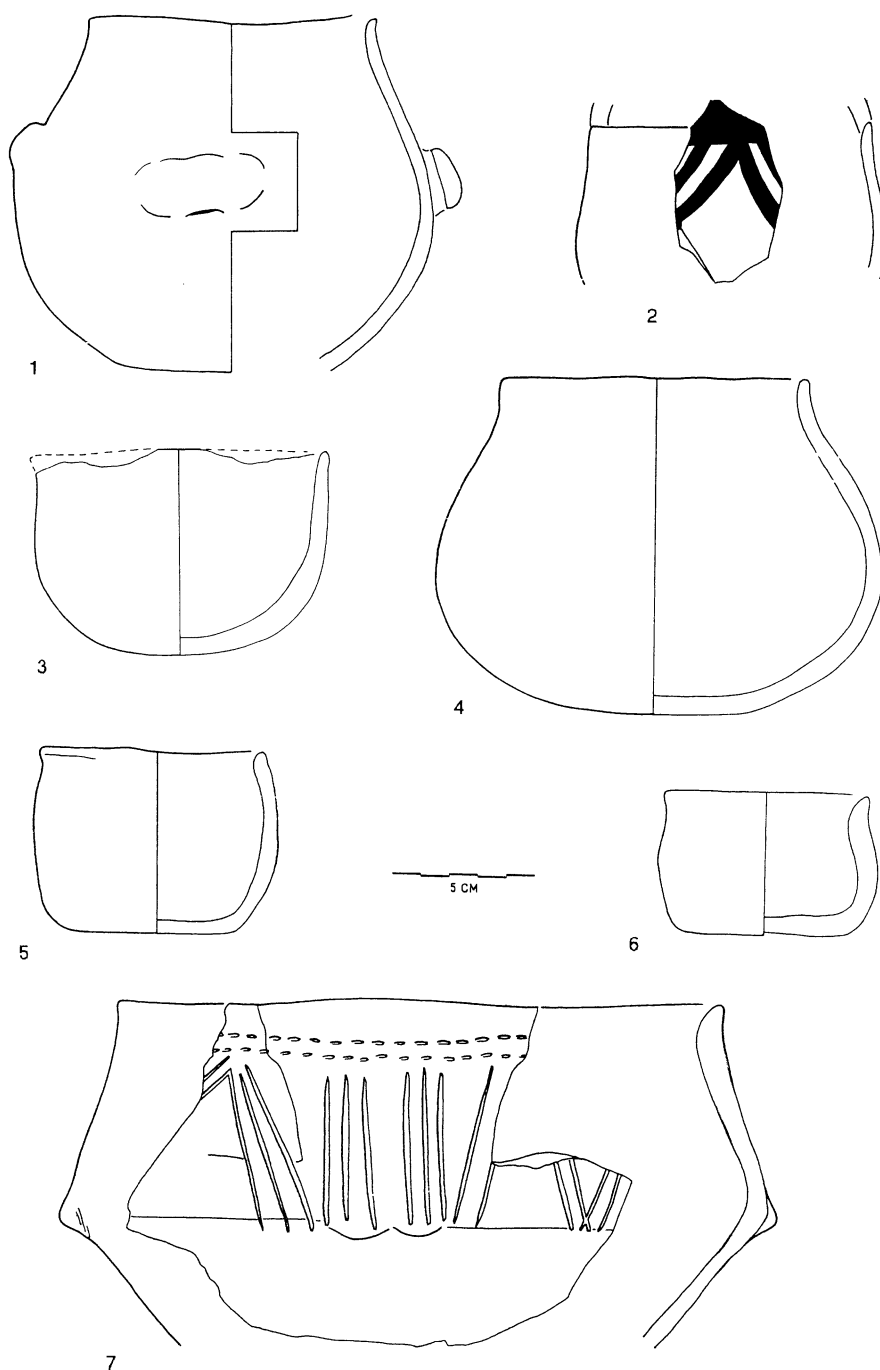


Fig. 13. Pottery from stratum 3, except for the painted sherd (upper right).

HUMAN SKELETONS FROM MENTEŞE HÖYÜK NEAR YENİŞEHİR

S. Alpaslan-Roodenberg and G.J.R. Maat¹

Introduction

During the summer seasons of 1996 and 1997 limited excavations were carried out at Menteşe by a Dutch-Turkish team conducted by J. Roodenberg in cooperation with the Museum of Iznik. This prehistoric mound or *höyük* is located on the edge of the plain of Yenişehir in Northwest Anatolia, and lies ca 25 km southeast of Ilıpınar, where since 1987 archaeological investigations have been carried out under the aegis of the Netherlands Institute for the Near East in Leiden/Holland.

The mound measures 100m in diameter and is ca 4m high. According to the excavators, both settlements are largely contemporaneous and display similarities in the material culture (Roodenberg, this volume). With the exception of the upper levels, the occupation deposit of Menteşe represents a late Neolithic/Early Chalcolithic village where the here described human skeletons were uncovered.

Archaeological context

Five of them were located in a sounding trench, called SSK15, the remaining three in trenches JK15 and JK16 (fig. 1). All of them had been buried in the central sector of the mound where they were found between 1.50 and 2.00m below the present surface. These burials belong to the upper level of Menteşe's Neolithic/Chalcolithic sequence, which is probably contemporaneous with Ilıpınar's phase VA, radiocarbon dated between 5600 and 5500 cal. BC (Roodenberg, this volume). Burial pits were recognized in most cases, but only at an advanced stage of excavation when skeletal parts started to surface. In the case of one burial (UA-SSK15), which was found next to a trench profile, it could be observed that the burial pit had been dug at least one meter deep. Pits were oval in shape and rather small, which often made the dead lay in a compressed position. A few artifacts were found in association with the dead: two pots in the adult burials UA-SSK15 en UA-JK16 (Roodenberg, this volume, fig. 10:1, 2) and a few small stone beads in a child burial (UE-SSK15).

In the upper level of the excavated area, the proximal and distal ends of a broken femur and fragments of a fibula were uncovered on a bed of stone pebbles. The walls of this probably Roman tomb had collapsed (*idem*, fig. 9). The position of the leg bones suggested that the

¹ Barge's Anthropologica, Leiden University Medical Centre. The second author wrote the paleopathological part.

dead had been lying on its back and was oriented NE-SW. No burial gift was found in the tomb².

Materials

The total number of recorded skeletons from the Neolithic/Chalcolithic levels was eight. The texture of the bone tissue was well preserved for most individuals. Except for one individual, the skeletons, including juveniles, were almost complete and anatomically articulated. As could be expected, the skulls of the juveniles were badly broken, yet two of them still had nearly complete mandibulas.

Methods

Because of the good preservation of the bones we were able to determine sex and age at death. Multiple age and sex markers were available for most skeletons. However, as skeletal sex features do not develop until late adolescence, juveniles can not be distinguished as male or female.

The non-metrical morphological degree of sexualisation of the pelvic and cranial features were studied according to the recommendations of the "Workshop for European Anthropologists" (1980). When both pelvic and cranial markers are available for sex determination, pelvic markers would have given the final diagnosis (WEA, 1980).

Dental development was used for the diagnosing age at death of juveniles, using diagrams from Ubelaker (1978). The Complex Method of Acsadi and Nemeskeri (1970) was applied for the age at death determination of the adults. For the latter the following indicators were scored: endocranial suture closure, pubic symphyseal surface changes, architecture of the cancellous bone in the proximal end of humerus and femur. Ossification of the jugular synchondrosis was applied as an additional age diagnosing tool for young adults (Maat and Mastwijk, 1995).

The instructions of Trotter and Gleser (1952, 1958; American Whites) were applied to measure long bones and to calculate the stature of the adults. Maximum skull length and breadth were measured with a sliding caliper and the cranial index (maximum skull breadth x 100 / maximum skull length, Knussmann, 1988) could be calculated for three adults (table 4).

Dental remains of individuals were macroscopically examined. Dental status and percentages were scored and calculated according to the definitions of Onisto et al. (1998). Finally, the degree of alveolar atrophy, calculus formation, and periodontitis was recorded after Brothwell (1981).

² For details of the archaeological context see Roodenberg, this volume.

Results

A review of the results on sex and age diagnoses, and on stature, cranial index and dental status is given in the tables 1, 2, 3, 4, 5 and 6.

Juveniles

Burial UB-JK15 (fig. 2:4) was the second burial found in trench JK15. The incomplete skeleton belongs to a child of ca 2 years old (table 2) which was lying in a flexed position on its right side. It was a primary burial, oriented SE-NW. The skull of the child was badly disturbed: half of it and the left leg, except a piece of distal femur, were missing. Mandibula and maxillary parts were absent, only a first deciduous molar, which could be used for the age determination, was found. No pathological changes could be traced in this skeleton.

Burial UE-SSK15 (fig. 3:4) was one of the two children uncovered in trench SSK15. It was a primary burial of a 3-5 years old child (table 2) with a well preserved skeleton. The cranium was broken, but the mandibula and maxillary parts were well preserved. Oriented W-E, the articulated skeleton was lying on its right side, head facing south and downwards. The legs were bent; the left leg and foot rested on the right one. The arms were straight, hands clasped in the lap. As is evidenced by the stone beads found spread near the neck, the child probably wore a necklace. Also, no paleopathological changes could be found in this child.

Burial UB-SSK15 (fig. 3:1) was a juvenile of 2.5-3.5 years old (table 2). It was lying on its left side and seemingly faced the young adult female of burial UC (fig. 1). It was in a flexed position, oriented W-E, and obviously constituted a primary burial. The position of the legs was disturbed, the feet were missing. The skull was broken and incomplete, but the mandibula and maxillary parts were almost complete.

The skeleton of this young child showed no pathology. Consequently, no association could be made with its deviant positioning which was, in contrast to all the others, on its left side.

Adults

Burial UA-JK16 (fig. 2:1) was the only one in trench JK16. It was found in the eastern part of the southern baulk between JK16 and JK15. The extremely flexed skeleton was oriented SW-NE and was lying on its right side, head to the west, face slightly downward. It was a young adult male, aged between 31 and 34 years (table 2). The spine of the skeleton was partly disturbed. From the articulated hands and long bones can be concluded that it was a primary burial. A broken but complete pot was found next to the face of the dead.

Quite some pathology was present in the skeleton. A healed fracture of his left forearm (radius and ulna) could be easily spotted because of its malalignment (see fig. 4). In addition, he showed osteoarthritis (arthrosis) of his vertebral arches at the cervical (neck) level. Osteoarthritis is caused by joint cartilage degeneration. As a result osteophytes (bony outgrowths) are seen along the joint margins. Finally, it appeared that he had also suffered from DISH (Diffuse Idiopathic Skeletal Hyperostosis or Forestier's disease). In this affliction structures made of connective tissue (attachments of ligaments, joint capsules, muscle

insertions) and cartilage start to ossify with increasing age. In the case of this 31-34 years old male it had affected his shoulder joint capsule and the insertions of the Achilles tendon on the heel bone and of the quadriceps tendon on his patellas. Unfortunately, his spine was too incomplete to examine. Eventually, at old age, DISH mildly limits body movements.

Burial UC-SSK15 (fig. 3:2) was from a young adult female between the age of 31 and 34 (table 2). It was a primary burial and relatively well preserved. Breakage of the skull was probably due to the weight of the earth above the skeleton. The dead was lying on its right side in a strongly flexed position, the neck in dorsiflexion, the hands folded under the chin. The orientation was SW-NE. The burial was found close to a 3-5 years old child (UB-SSK15) which had its face turned to UC (fig. 1). This female suffered most probably from Reiter's disease, an infectious venereal disease, which during life is complicated by an additional inflammation of the urethra and conjunctiva. Her skeleton showed grouped bony outgrowths along the lumbar parts of her spine (so-called "skip lesions", see fig. 5), a bilateral inflammation of her sacro-iliac joint (fig. 6) and of her left elbow, all resulting in ankyloses.

Burial UD-SSK15 (fig. 3:3). Oriented NW-SE, this skeleton was lying on the right side facing S-W and belongs to an adult male of 55-58 years old (table 2). Part of the spine and some hand and foot bones were missing. The left leg was normally flexed, the right leg only slightly; the left hand was in front of the face. The bones were well preserved and showed little breakage. It is an interesting case, because sex markers on the cranium indicate a strong female character, whereas chin shape and pelvic markers on the post-cranial skeleton show male features (table 1). It was a primary burial. Both cranium and post-cranial bones were in articulation, as is shown on the drawing. No doubt they belonged to the same individual.

This middle-aged male had a healed fracture of the right clavicle, peripheral osteoarthritis (arthrosis; see burial UA-JK16) of his right hip joint, distal interphalangeal joints of his hands, the proximal interphalangeal joints of his feet and the metatarsal-phalangeal joint of his right big toe. In addition, he suffered from beginning DISH (see also burial UA-JK16) with ossifications of the lumbar part of his anterior longitudinal ligament of the spine and of the insertion of his Achilles tendon on the heel bone.

The skeleton of burial UA-SSK15 (fig. 2:2) is from an adult female, the second of two burials where pottery was found in association with the deceased. The age at death was between 23 and 34 (table 2). The skeleton was badly disturbed: almost half of the skeletal parts were missing, including the leg bones. From the still intact hands and feet it can be deduced that UA was a primary burial. The dead had been buried in a slightly flexed position, which can be understood from the patellas, still in situ, and from the size of the pit, which had visible contours. It was lying on its right side in a SW-NE orientation, with the hands in front of the face. Underneath the hands, head and feet there were traces of wooden planks on which the dead presumably had been laid to rest.

The female had contracted two remarkable mechanical traumas during her relatively short life: a healed impression fracture of the vault (right parietal bone; see fig. 7) and a split and fused distal phalanx of one of her thumbs. She also had a non-systematic ossification (esthesopathy) of the apical ligament between the dens of the axis (cervical vertebra nr. 2) and the base of the skull.

Burial UG-JK15 (fig. 2:3). The skeleton belongs to an adult female of 54-60 years (table 2) which was lying in a tightly flexed ventral position, the face turned upwards, the neck in dorsiflexion. The legs were bent along the right side of the body, the breast and head rested on the bottom of the pit. The arms were bent under the abdomen. This nearly complete skeleton, oriented S-N, was certainly a primary burial.

This middle-aged female had suffered from a maxillary sinusitis of her left upper jaw and from vertebral osteoarthritis (arthrosis; see burial UA-JK16) at a cervical (neck) level of her spine. Also, she had contracted DISH (see burial UA-JK16) resulting in ossifications of the lumbar part of the anterior longitudinal ligament of the spine, the apical ligament (see Burial UA-SSK15), the attachment of the fascia lata along the iliac crest and of costal cartilages.

Discussion and conclusions

All skeletal remains from the Neolithic/Early Chalcolithic levels at Menteşe were primary burials. The dead were lying on their right side, except for a child from trench SSK15 which was on its left side. The body position of the dead varied from slightly to extremely flexed. This is probably due to the shape and size of the burial pits. For example, the fact that the limbs of UA-JK16, UC-SSK15 and UG-JK15 were extremely flexed, could be explained by the narrowness of the pits in which they had been laid to rest. In the Neolithic period grave goods and personal belongings were not common, yet in two of the burials from Menteşe a pot was found in association with an adult (UA-JK16, UA-SSK15). In a single case personal belongings were noticed – stone beads collected from a child's grave (UE-SSK15) suggesting that the child wore a necklace at its funeral. Traces of wooden planking under an adult female skeleton from burial UA-SSK15 constitute a remarkable discovery. As a rule, 7500 years old wood is hardly preserved in archaeological contexts from Anatolia and the Balkans, let alone in tombs. Therefore, the Neolithic/Chalcolithic burials from Menteşe and Ilıpınar can be considered as very rare examples of the use of wood in a funerary tradition (Roodenberg, 1999b; Roodenberg & Alpaslan-Roodenberg, 1999).

As was shown above, the total number of skeletons from the Neolithic/Chalcolithic levels was eight, comprising three juveniles and five adults. Among the adults, three females and two males were identified (table 1). Considering the small size of the sample, the following comments on sex ratio, child mortality, life expectancy, stature and cranial index are made with great reservation. As it seems, males and females are more or less equally represented. The age of death distribution shows three clusters: three juveniles aged between 2 and 5, three adults between 23 and 40 years, and two adults aged of 52-60. The latter may indicate that life expectancy of males and females were equal. The obviously missing age groups are children from the age of 6 on, and youngsters till ca 20.

The average stature of the three adult females was 155.2cm, while the average size of the two males was 157.5cm (table 3). The difference in stature between the averages of males and females seems too small, but this is most likely due to the small sample size.

Calculation of the cranial index could be made for three individuals only, the remaining skulls being badly preserved. The results in table 4 show that there was no brachycranial skull among them.

Teeth are usually better preserved than bone after death. Observation of dental remains could provide some information about diet. Dental attrition and caries rate in a population depend on dietary factors. As a rule, agriculturalists have more tooth decay than hunter-gatherers, as the former eat more soft and sticky high carbohydrate sources such as cereals (Beyer-Honca, 1995). The individuals of all age groups showed carious teeth. Caries more or less equally involved the occlusal and neck surfaces (47.6 resp. 52.3%) often with an abscess and a fistula. Occlusal caries should dominate in hunter-gatherer diets, while neck caries should dominate in agriculturalists. We seem to be dealing with the results of both diets. The overall rate of carious teeth of adults was 18.1% (see table 5), which is extremely high, as one expects it to be 3-6% (Moore and Corbett, 1983). Could this be related to a possible, but additional, agricultural life style?

Intrasite population comparison on the basis of Menteşe's small sample is believed to be inadequate. In addition, human material from the same region (NW Anatolia) and roughly from the same time span (7000-4000 cal. BC) is not available. Therefore, it is the intention of the authors to incorporate the skeletal data from Menteşe in a larger study also comprising the human remains from the Neolithic/Chalcolithic burial ground at nearby Ilipinar. This collection, consisting of ca 60 individuals, is considered to be more suitable for future comparison with larger samples from distant sites in Central and Southeast Anatolia.

With respect to the paleopathology within this small group a few remarkable aspects are to be discussed. The children showed no pathological changes. This is usually the case in archaeological samples, since most children are supposed to have died from acute infectious diseases. Juveniles may be up to 30% of a pre-industrial skeletal population (Waldron, 1994). Because of the short course of their illness the skeleton seldom gets involved and consequently shows no changes. The health status of the five adults in the collection was not dominated by infectious diseases, diet deficiency diseases or tumor growth. Features of infections like the usual (osteo-) periostitis were not found. The same held for features of deficiency diseases, like from vitamin D (rickets) or C (scurvy). In contrast, mechanical traumas (five fractures in three adults), osteoarthritis (arthroses of vertebral and peripheral joints due to constitutional predisposition and "wear and tear" in three adults; Maat et al., 1995) and DISH (progressive systemic ossifications associated with a "rich" diet in three adults; Rogers and Waldron, 1995; Janssen and Maat, 1998) were rather predominantly present in the group. Most remarkable was the case of Reiter's disease in a 31-34 year old female (see burial UC-SSK15). It must be the most ancient known case. The infection causes a not life threatening venereal disease, mainly seen in men (Rogers and Waldron, 1995). It comes with an urethritis and a conjunctivitis in young adults and may cause, like in our case, gross destruction and ankylosis of the large joints (most commonly in the lower extremities). All in all, we may conclude that the found disease pattern of the adults seems to express a physically rather strenuous life style, with little risks for infectious and diet deficiency diseases.

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Table 1 Sex Determination of Adults

Burial Number	Sex. dgr. pelvis	N	Sex. dgr. cranium	N	Sex M/F
UA-SSK15	–	–	–1.7	17	F
UC-SSK15	–0.75	12	–0.7	24	F
UD-SSK15	+0.5	12	–1	24	M
UA-JK16	+0.2	5	+1.8	23	M
UG-JK15	–1	14	–1.5	24	F

Sex. dgr. = degree of sexualization (+/– = masculine / feminine development); N = number of sex features used for calculation; M = male; F = female.

Table 2 Age at Death

Burial Number	Dent. Erupt. (yrs)	Sym. phase	Fem. phase	Hum. phase	Sut. phase	Jug. synch.	Skel. Age (yrs)
UA-SSK15	–	–	–	–	1	+	23-34
UC-SSK15	–	–	2	–	2	+	31-34
UD-SSK15	–	4	3	–	1	+	52-58
UA-JK16	–	–	2	–	2	+	34-40
UG-JK15	–	3	–	4	4	–	54-60
UB-SSK15	+	–	–	–	–	–	2.5-3.5
UE-SSK15	+	–	–	–	–	–	3-5
UB-JK15	+	–	–	–	–	–	2

Dent. Erupt. = dental eruption; yrs. = years; Sym. = pubic symphysis; Fem./Hum. = spongiosa in proximal femoral/humeral epiphysis; Sut. = suture obliteration; Jug. synch. = jugular synchondrosis/-ostosis; Skel. = skeletal; + = applied; – = not applied.

Table 3 **Calculated Statures of Adults**

Burial Number	Sex	Trotter & Gleser ('58) (cm; s.d.)	Trotter & Gleser corr. ('52, '58) (cm)
UA-SSK15	F	155.4 ± (4.24)	155.2
UC-SSK15	F	155.9 ± (4.30)	155.7
UD-SSK15	M	148.6 ± (4.37)	147.1
UA-JK16	M	168 ± (3.86)	167.8
UG-JK15	F	154.4 ± (4.24)	152.8

corr. = corrected for age shrinkage.

Table 4 **Cranial Index (breadth / length x 100)**

Burial Number	Index	Form
UA-SSK15	–	
UC-SSK15	72.7	dolichocranic
UD-SSK15	78.8	mesocranic
UA-JK16	–	
UD-JK15	77.1	mesocranic

Table 5 **Dental Status**

Feature	Number	Percentage Adults
N erupted	152	
N supernumerary	0	
AM loss	18	13.0% ³
PM loss	4	3.3% ³
N inspected	116	
PM alveolar loss	14	
N caries (overall)	21	18.1% ¹
– occlusal	10	47.6% ²
– neck	11	52.3% ²
N abscesses	11	9.2%
N fistulas	4	
N cong. absent	8	

N = number; AM = antemortem; PM = postmortem; cong = congenitally; N of the adults = 5;
N of the juveniles = 3

1. percentage of inspected teeth;

2. percentage of inspected carious teeth;

3. calculated according to Onisto et al. 1998.

Table 6 **Additional Dental Changes**

	Slight	Moderate	Severe	N
Alveolar atrophy	1	2	2	5
Calculus	1	3	1	5
Periodontitis	1	–	4	5

N = number of the individuals.

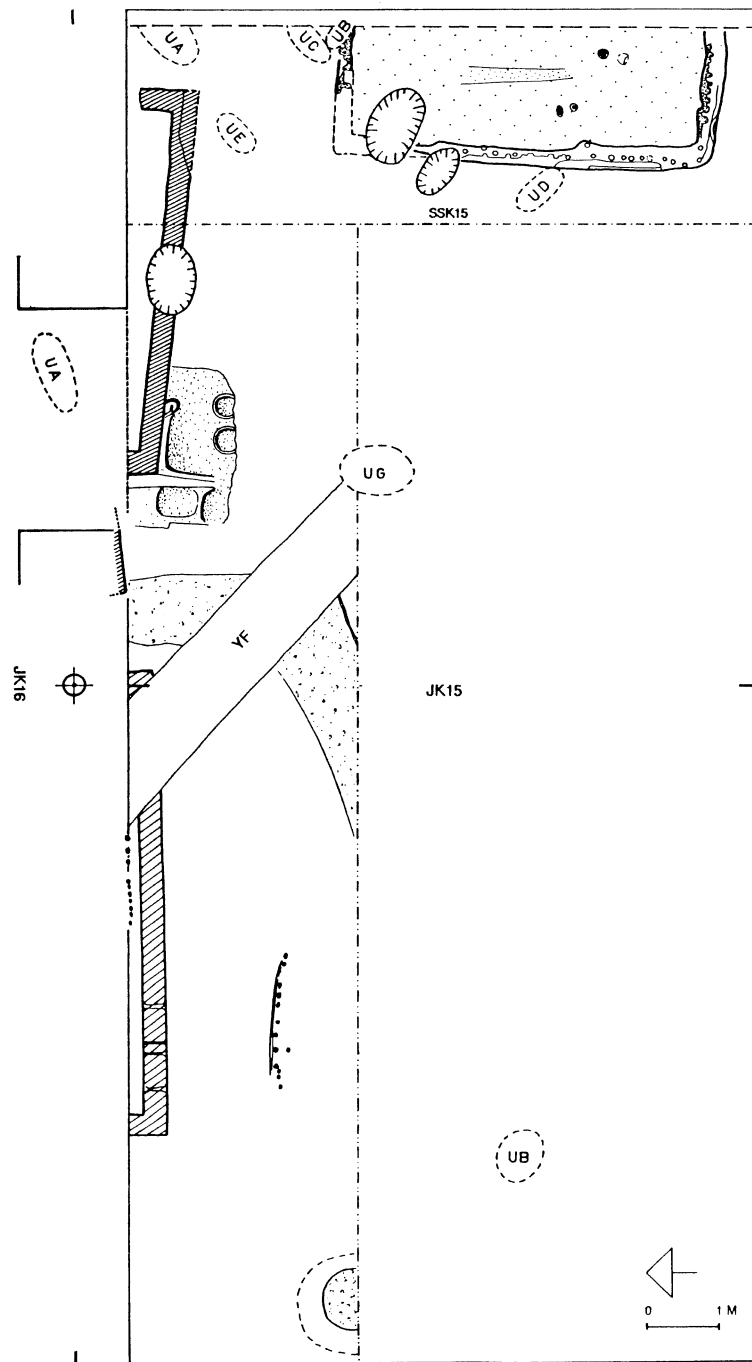


Fig. 1. Distribution of the burials in the excavation trenches

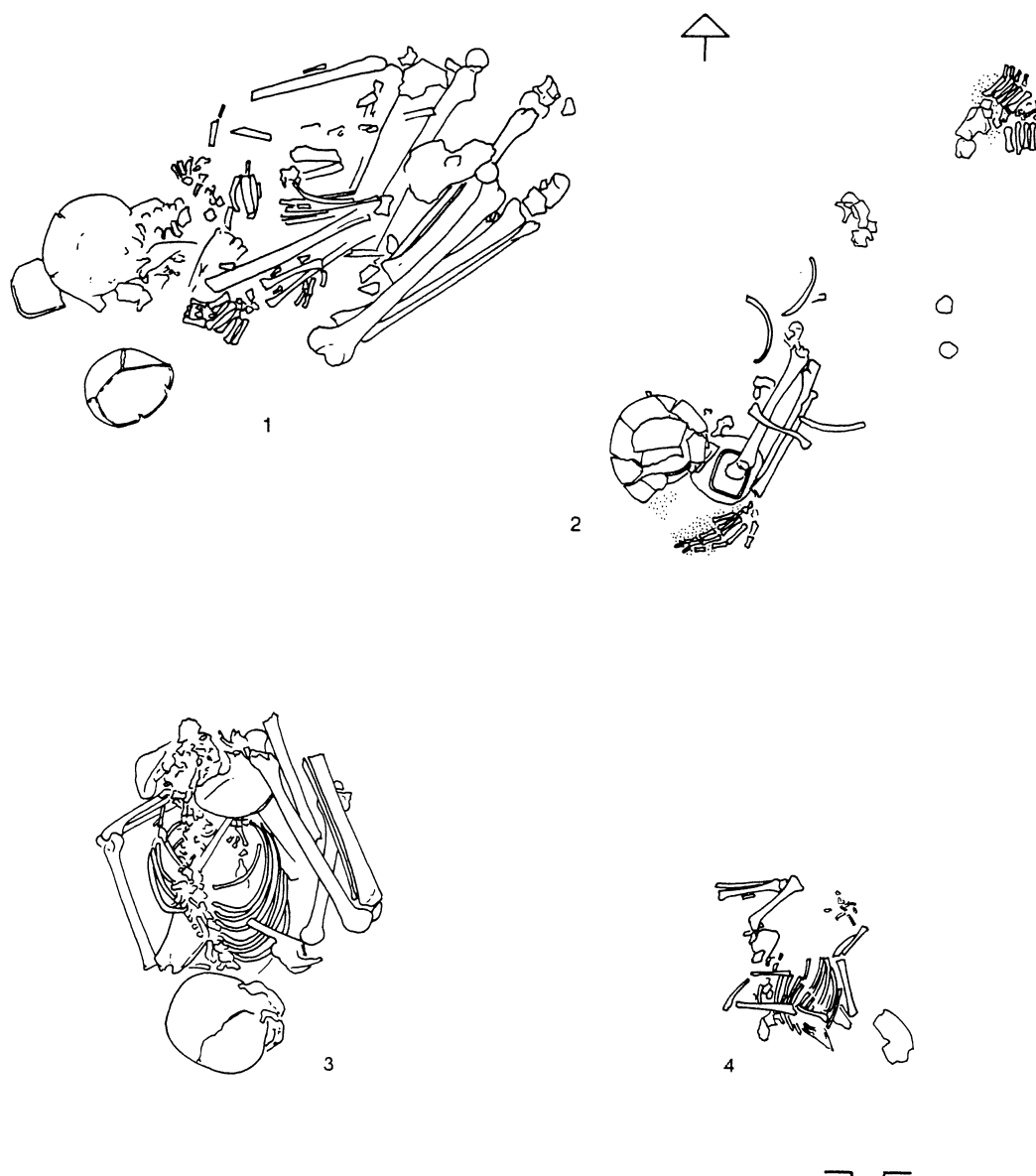


Fig. 2. Burials: 1. UA-JK16; 2. UA-SSK15, dots indicate wooden plank remains; 3. UG-JK15; 4. UB-JK15.



Fig. 3. Burials: 1. UB-SSK15; 2. UC-SSK15; 3. UD-JK15; 4. UE-SSK15.



Fig. 4. Healed fractures of the shafts of the ulna (top) and radius (bottom) of the left forearm of a 31-34 years old male (burial UA-JK16). Notice the malalignment.

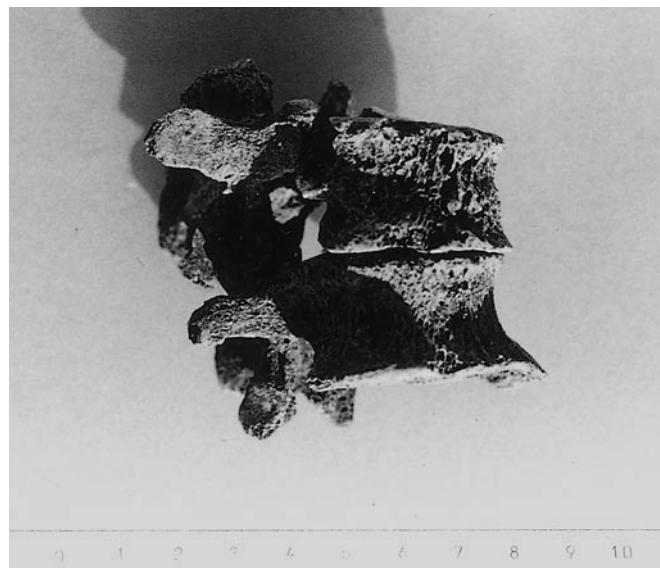


Fig. 5. One of the "skip lesions", most probably from Reiter's disease, in two lumbar vertebrae of a 31-34 years old female. Notice the protruding bony outgrowth along the body of the lower vertebra.



Fig. 6. Remains of a post-mortem fracture of a left sacro-iliac joint ankylosis due to sacro-iliitis.
Same individual as shown in fig. 5.



Fig. 7. A healed impression fracture (arrow) of the
right parietal bone of the vault of a 23-34 years
old female.

GÜVERCINKAYASI 1997

Sevil Gülçur¹

Die Grabungen auf dem Güvercinkayası², die in Zusammenarbeit mit dem Aksaray-Museum und dem Seminar (Hauptlehrfach) für Ur- und Frühgeschichte der Universität Istanbul durchgeführt werden³, werden von dem Forschungsfond der Universität Istanbul (Projekt Nr. 813/190496) getragen und vom Kulturdezernat des Vilayets Aksaray und vom Bürgermeisteramt des Demirci Kasabası unterstützt.

Die zweite Kampagne der archäologischen Untersuchungen auf dem hoch aufragenden Felsen am rechten Ufer des Melendiz-Su bzw. des Ulurmak⁴ begannen am 1. September 1997 und wurden am 12. Oktober abgeschlossen.

Die diesjährigen Arbeiten wurden in drei verschiedenen Bereichen der Felsrückensiedlung fortgesetzt (Abb.1-2):

1. Um eine bessere Phasenabfolge und klare Schnittkanten zu erzielen, wurden die alten Schnitte auf der Hochterrasse in Richtung des Siedlungshügels (6-5 K auf der Nord-Süd Achse bis zur 6 m bzw. 10 m Linie und 4 J auf der Ost-West Achse bis zur 10 m Linie) erweitert.

¹ Für die Durchsicht des Manuskripts danke ich Frau Heike Offen-Eren M.A. und für die Umzeichnungen der Pläne in Tusche Herrn Ahmet Atila (DAI-Istanbul). Balmuncu Chemie übernahm die Lieferung von Restaurationsmitteln, Yapı-Endustri Merkezi schenkte einen Computer und Türkiye İş Bankası (Filiale Aksaray) versorgte das Grabungshaus in Demirci mit Gebrauchtmöbeln.

² Vorberichte über die Grabungen auf dem Güvercinkayası 1996 sind erschienen in: *Arkeoloji ve Sanat* 78, 1997, 2-13 und Farbtafeln; *Anatolica* XXIII, 1997, 85-110.

³ Die Grabungsmannschaft setzte sich aus folgenden Mitgliedern zusammen: T. Burultay, B. Doğru, A. Hiçdurmaz, E. Karaman, Ö. Korkmaz (Grabungsaufsicht), G. Karamancı, B. Özkanlı, M. Tekelioğlu (Bauaufnahme), P. Çaylı, A. Kara, F. Yıldırım (Fundbearbeitung). Die Archäologin D. Kara vertritt das Museum von Aksaray und unterstützte das Unternehmen tatkräftig. Die topographischen Kontrollmessungen am Grabungsgelände wurden wie im vorherigen Jahr vom Topographen-Team des Staatlichen Wasseramtes (44. Bezirk) unter der Leitung von M. Özateş durchgeführt. Die Obsidianindustrie wird weiterhin von Dr. hab. N. Balkan-Atlı untersucht. Prof. Dr. E. Erüz (Direktor des Instituts für Umweltforschung, Universität Istanbul) widmete sich den chemischen Bodenanalysen und Dr. hab. Ü. Yalçın (Bergbaumuseum, Bochum) den Schlacken u.a. Die Tierknochenfunde wurden dankenswerterweise von Dr. H. Buitenhuis (Abteilung für Archäologie, Rijksuniversiteit Groningen) bearbeitet (siehe Anhang). Das paleobotanische Fundgut wird ab 1998 von H. Woldring und Dr. R. Cappers (Abteilung für Archäologie, Rijksuniversiteit Groningen) untersucht.

⁴ Für die genaue Lage des Siedlungsfelsens im zentralanatolischen Hochland (Provinz Aksaray) siehe: S. Gülçur, *Arkeoloji ve Sanat* 78, 1997a, 3.5, Farbtafeln 1-2; ders. *Anatolica* XXIII, 1997b, 85.98 Abb. 1.

2. Ein Testschnitt am Fuße der nördlichen Hochterasse (3 I) sollte zur Klärung der Stützmauer-Theorie und Ermittlung der Siedlungsgrenzen beitragen.
3. Am höchsten Punkt des Akropolishügels (in den Quadraten 7-8 H) dort, wo das Areal vor jährlichen Überflutungen geschützt ist, wurde mit den großflächig angelegten Untersuchungen begonnen.

Die Grabungen am Osthang des Siedlungshügels (Planquadrate 6-5 K)

Der zentrale Siedlungshügel fällt sanft nach Osten ab und wird im Süden von hohen Felsen abgeschrmt. Ein ca. 0.50 m hoher Felsblock nimmt hier in Nordost-südwestlicher Richtung einen erheblichen Teil des Quadrats 7 K ein. Eine ca. 4.50 m lange Mauer stützt sich an diesem Vorsprung ab und begrenzt so den Raum M3/4 in 6 K von Süden. Dazu stößt im rechten Winkel eine Nordost-südwestliche Mauer und bildet die Raumgrenze entlang der westlichen Grabungskante. Obwohl die Kulturablagerungen auf der von beiden Mauern vorgegebenen Fläche eine Stärke von nur ca. 0.10-0.15 m erreichten, verbargen sie Reste eines Lehmfußbodens und einer runden Herdstelle ($\varnothing \pm 1.20$ m) mit mindestens drei Erneuerungsphasen. Ein Reibstein auf dem obersten Begehungshorizont in der verputzten Südwestecke sowie Fragmente eines zerschlagenen Topfes mit einem Reibsteinschälchen (Mörser?) vor der Westmauer auf dem untersten Begehungshorizont zählten in diesem Bereich zu den in situ Funden.

Im Norden wird der große Raum M3/4 von einem kleinen quadratischen Raum M2 (± 1.60 m x 1.60 m) flankiert (Abb. 3). Dieser Raum, der letztes Jahr nur ansatzweise beobachtet worden war, konnte dieses Jahr in seiner vollen Größe freigelegt werden. Seine aus zwei Steinbreiten bestehende Mauern ruhen, wie so oft, auf einer dünnen Erdschicht. Den Untergrund des Wohnbereiches durchzieht eine schräge Rinne, die mit Steinen gefüllt ist. Obwohl die Kammerwände deutliche Verputzreste aufweisen, ist der Innenraum anscheinend nachträglich mit einem Gemisch aus lehmhaltiger Erde und Bruchsteinen aufgefüllt worden.

Während der ersten Kampagne konnte im Schnitt 5 K auf einer Fläche von 10.00 m x 5.00 m die Ostflanke eines Mehrraumhauses mit vier Räumen freigelegt werden. Die beiden Räume entlang der Schnittkante (M1-2) wurden dabei als zwei gleich breite Kammern ausgelegt⁵. Die diesjährigen Untersuchungen auf der Westhälfte des Schnittes widerlegten diese Annahme. Der Raum M1, der wegen einer leichten Böschung am Felsen tiefer liegt als der benachbarte quadratische Raum (6 K/M2), stellte sich tatsächlich als eine Ost-West orientierte schmale Kammer aus. Im Norden schloß sich diesem jedoch durch eine schwache Mauer in Lehmmörtelbauweise getrennt, nicht ein gleichbreiter sondern ein quadratischer Raum M2 von erheblichem Ausmaß (3.80 m x 3.80 m) an. Dieser erstreckt sich im Norden bis zum Aufweg (M11) aus und wird im Westen von einem vermutlich ebenfalls großen Raum M10 entlang der Schnittkante eingenommen.

⁵ Gülçur, 1997b, 88.

Bei näherer Betrachtung schien jedoch die ost-westliche Kammer M1 in einer späteren Phase von dem großen Raum M2 ausgespart und ähnlich wie die Kammer M2 im Nachbarareal 6 K in einer noch jüngeren Phase aufgefüllt worden zu sein (Abb. 4). Ein kleiner Durchgang reicht an der hellverputzten schmalen Trennwand bis auf das Niveau der älteren Begehungsfläche, die mit Bruchstücken mehrerer Gefäße versät war, hinab, und verbindet sie mit dem großen Raum M2. Die Rückwand der schmalen Kammer konnte noch nicht freigelegt werden.

Eine ± 0.50 m breite Mauer, die in Lehmörtelbauweise sorgfältig aufgebaut und noch vier Steinlagen hoch (± 0.70 m) erhalten ist, trennt die stufenartig angeordneten Räume M2 und M10 voneinander (Abb. 5-7). Die Begehungsfläche des großen quadratischen Raumes (M2) liegt um ± 0.60 m tiefer als die Begehungsfläche des im Westen benachbarten Raumes. Obwohl Raum M10 nur ansatzweise erhalten ist, weisen diese Räume gemeinsame Merkmale auf (Abb. 7). Beide Räume haben jeweils in der nordöstlichen Ecke (Tn. 6-7) einen großen Kuppelofen und südwestlich davon eine runde Feuerstelle (Oc.4-5). Sowohl in M2 als auch in M10 liegen in unmittelbarer Nähe der Kuppelöfen Reibsteine in situ. Ein wie die Innenwand hellverputzter Mauervorsprung (0.60 m x 0.40 m) und ein im Anschluß daran in den Lehmfußboden eingelassener Pfostenlager fehlen dagegen in der immobilien Ausstattung von M2. Auffallend waren auch die vielen Pithosfragmente der schwarzpolierten Gattung (WI) auf dem Fußboden von M10 (Abb. 5 Bildrand unten). Da sie in der Pflugzone lagen, waren ihre Mündungen nicht mehr aufzufinden. Die Bodenpartien dieser schweren Gefäße waren um ihnen Standfestigkeit zu verleihen, außen bis zum Bauchumbruch dick mit Lehm ummantelt.

Der quadratische Raum (M2) öffnet sich an seiner Nordwand mit einem ± 0.50 m breiten Durchgang zu dem überbauten Aufweg (M11). Damit sind auf dem Güvercinkayaş zum ersten Mal zwei einander gegenüberstehende Türöffnungen belegt (Abb. 6-7). Ein Erstlingsbefund ist auch der Ofen Tn.6 mit intakter Kuppel. Da an diesem Beispiel der gesamte ovale Ofenkörper aus handlichen Steinen in Lehmörtelbauweise hochgezogen und die Ofenkammer innen erneut mit Lehm verstrichen ist (Abb. 7; 9), ist die verfrühte Annahme zu korrigieren, daß die ovalen Kuppen von breiten Lehmstreifen aufgewulstet worden seien ⁶. Eine Ansammlung von Bruchsteinen an der Westseite des Ofens, die in einer unförmigen Lehmmasse mit Verputzresten eingebettet lagen, läßt hier eine zerstörte Arbeitsbank vermuten.

Zum wichtigen tragbaren Rauminventar gehörten ein Geweihstück mit abgeschnittenen Enden auf der runden Herdplatte (Oc. 4) und zwei runde doppelkonisch durchlochte Mahlsteine aus hartem basaltähnlichen Gestein (Abb. 30:3). Der größere von diesen lag in der nordwestlichen Raumecke unter einem ebenfalls aus hartem Gestein gearbeiteten, breiten, ringförmigen Manschettenfragment (Abb. 7). Die Vermutung liegt nahe, daß diese beiden Teile zusammengehören.

⁶ siehe ebd. 89 und 1997a, 11.

Die verbaute Fortsetzung des Weges (M7)⁷, die sich zwischen den Räumen M2 und M8 erstreckt, wurde in einer Länge von ± 5.00 m als M11 aufgedeckt (Abb. 2;10). Hier kam gleich unter der Erdoberfläche ein Versturzschicht aus verschiedenen großen Steinen zu Tage. In den oberen Lagen dieser Verfüllung wurden in unregelmäßigen Abständen einfache Steinsetzungen beobachtet. Mit den Innenkanten der Steine formten sie seichte Gruben, die mit Tierknochen gefüllt waren. Nachdem die obersten Lagen dieser ersten Schicht abgetragen wurden, bildete sich in der Mitte des Aufweges eine schmale ost-westliche Rinne (± 0.50 m), die an den Innenkanten mit Steinen gefestigt war (Abb. 10). Am Westende des untersuchten Areals nördlich sowie südlich der Rinne ist annähernd auf gleicher Höhe wie die vorhandenen Mauerkronen, jeweils ein großer Kuppelofen mit der Öffnung nach Osten plazierte. In welchem Verhältnis diese beiden Öfen zu den benachbarten Räumen (M2-10) stehen, war aus dem Baubefund noch nicht klar zu ersehen. Zudem bildet eine Reihe von großen locker aneinandergesetzten Steinblöcken, dort wo die Rückwand des M1 in 4 K zu erwarten wäre, die Nordfront des überbauten Aufweges. Vor dieser Abgrenzung liegt die Hälfte eines Kuppelofens mit mehreren Erneuerungsphasen. Dieser Ofen belegt höchstwahrscheinlich einen jüngeren Begehungshorizont des Raums M1 in 4 K.

Die zeitliche Zuordnung der aufgedeckten Befunde, sowie die Entwicklung des Aufweges innerhalb der tieferliegenden Schichten wird erst in den bevorstehenden Kampagnen möglich sein.

Die Grabungen am Nordhang des Siedlungshügels (Planquadrat 4 J)

Als vorläufig weiteste Untersuchungsgrenze war 1996 die innere Wassererosionskante entlang der äußersten Peripherie des Siedlungshügels festgelegt worden. 1997 wurden dagegen klar definierte Areale innerhalb des vorgegebenen Koordinatensystems angestrebt. So wurde die alte Grabungsfläche in 4 J bis auf die 10.00 m Linie auf der Ost-West Achse zurückversetzt (Abb. 1-2). Unter diesem schmalen Streifen von ± 1.50 -2.00 m Breite lagen die südlichen Teile der Räume M1, M6 und M5 verborgen.

Obwohl seine Rückwand noch nicht belegt werden konnte, erreichte der 3.40 m breite Raum M1 mit der neu ausgegrabenen Fläche bereits eine Länge von ± 5.00 m. Ein Glutbehälter, zwei runde Eintiefungen sowie die Südhälfte der runden Herdstelle (Oc.1) vom Vorjahr gesellten sich in diesem Abschnitt auf dem obersten Fußbodenniveau zu dem bereits vorhandenen Rauminventar (Abb. 11)⁸.

Der hufeisenförmige Glutbehälter (0.80 x 0.40 x 0.30 m) ist an die Westwand des Raumes (M1) angelehnt. Er ist leicht gewölbt, öffnet sich nach Norden und besteht in der Bauweise aus einem Kern von kleinen Steinen, der mit Lehm ummantelt ist. Auffallender-

⁷ Gülçur, 1997a, 89, 103 Abb.15 und 1997b, 6.

⁸ Gülçur 1997b, 91, 103 Abb. 18; 1997a, Farbtafel 2:6.

weise war auch hier ein Hörnerpaar, die natürliche Stellung am Kopfe eines Tieres nachahmend, bewußt auf der Behälterplatte niedergelegt (Abb. 12).

Die runden Eintiefungen sind rechts und links hinter der aufgedeckten Herdstelle (Oc.1) plaziert. Sie sind ähnlich wie die Fußböden aus feuchtem Lehm geformt, weisen leicht erhabene Mündungen auf und sind innen glatt gestrichen. Mit einem Durchmesser von $\pm 0.18-0.20$ m wiederholen sie die Maße der sogenannten Pfostenlöcher, die in den Felsgrund eingearbeitet sind. Ob die Eintiefungen aus Lehm auch als solche zu deuten sind, muß jedoch noch untersucht werden.

Die Bebauung auf der Osthälfte des Quadrates 4 J wurde 1996 als ein weit ausge-dehtes Wohnhaus mit fünf Räumen (M2-6) interpretiert. Die beiden schmalen Kammern M6 und M5, die durch eine sorgfältig verputzte nordsüdliche Mauer voneinander getrennt wurden, bildeten vorläufig die Südflanke dieses Hauses. Während der Arealerweiterung wurde jedoch erkannt, daß die Trennwand sich nicht wie erwartet weiter fortsetzt, sondern in einem Mauerstumpf endet (Abb. 13 Bildrand rechts). Zudem fielen in der Bauweise dieses Raumverteilers einige Besonderheiten auf. Obwohl die obere Reihe des Mauerwerks in der üblichen Art aus aneinandergefügtten Steinen hochgezogen war, bildeten, soweit es beobachtet werden konnte, grobbehauene längliche Steine, die hochkant aufgestellt waren, an diesem Beispiel die unterste Steinreihe. Sie gestalteten, ähnlich wie bei der Schalenmauerbauweise, die Außenfront sowie den Mauerkopf. Als Füllung für den Zwischenraum dienten dagegen kleinere Steine. Ein Hort von meist unbearbeiteten größeren Obsidians-tücken, die hier unter den kleinen Steinen auftraten, war höchstwahrscheinlich an dieser Stelle als Fundamentgabe niedergelegt worden.

Mehrere Versturzsichten durchzogen die Fläche südlich des Mauersturmpfs. Diese Ablagerungen aus Lehm und Steinen waren meist mit Bruchstücken von Tongefäßen und von Tierknochen durchmischt. Ein Hörnerpaar von domestizierten Ziegen war sogar unter einer Lehmbe-packung aufgehoben (Abb. 14). In den unteren Lagen dieser Verfüllung im östlichen Bereich des M6 formierte sich allmählich eine Flucht aus übereinanderliegenden Bruchsteinen in nordsüdlicher Richtung (Abb. 13). Diese

Flucht, die teilweise an der Westseite verputzt war, lief östlich des Raumverteilers in einem Abstand von ± 0.50 m parallel dazu und hörte jedoch auf der halben Mauerlänge auf. Ob diese Kante die Begrenzung einer erhöhten Plattform darstellte oder nicht, ist in der Zukunft noch zu erforschen. Auffallend war außerdem eine Steinsetzung auf der obersten Begehungsfläche des M6. Hier war unter einer Lehmbe-packung ein zentraler, an den Kanten grobbehauener Stein von kleineren Steinen umgeben.

Nachdem die Raumverfüllung in M5 zum größten Teil beseitigt worden war, wurde im westlichen Wohnbereich die oberste Begehungsfläche erreicht. Hier lagen neben vielen Bruchstücken von zerbrochenen Gefäßen deponierte Hörner von domestizierten Tieren, Teile von Hirschgeweihen, Knochen- und Geweihgeräte (Abb. 15; 27:2-4; 28:2.4), eine Reibsteinschale (Abb. 16; 29:1) u.a. zerstreut.

Die Grabungen am Fuße der nördlichen Hochterrasse (Planquadrat 3 I)

Schon während der ersten Begehungen des Siedlungfelsens hatte am Fuße der östlichen und nördlichen Hochterrassen (Planquadrate 3/I-K, 4-6 L) eine klar definierbare Reihe von monolithischen Steinen, die mit Ausnahme von einigen geringen Zäsuren die Peripherie der Felsstufe umlief, besondere Aufmerksamkeit erregt⁹.

Das Fünfraumhaus auf der nördlichen Hochterrasse (Schnittfläche 4 J-I) ist von einer starken Außenwand begrenzt. An dieser 0.70-80 m breiten Mauer ist die der Terrassenkante zugekehrte äußere Steinreihe ebenfalls aus größeren Steinblöcken zusammengesetzt. Nachdem sie im Westen den Fußweg erreicht und den Ausgang zu diesem abgeschirmt hat, wendet sie sich mit einem scharfen Knick von $\pm 90^\circ$ nach Norden hin, überbrückt so die Felskante und sitzt auf den monolithischen Steinen in 3 I auf¹⁰. Nach diesem Baubefund zu schließen müßte die äußerste Häuserreihe entweder gleichzeitig von zwei starken Mauern flankiert gewesen sein oder aber die tieferliegende periphere Flucht den Bauten als Terrassen- bzw. Stützmauer gedient haben.

Unter diesen Aspekten sollte ein Testschnitt gleich in der Verlängerung des verbauten Gehweges zur Klärung der Stützmauer-Theorie und Ermittlung der Siedlungsgrenzen beitragen.

Sowohl im Westen als auch im Osten ist die Schnittfläche 3 I teilweise von hohen Felsen abgeschirmt. Das wellige Gelände fällt hier von Süden nach Norden recht steil ab. Das periphere Mauerstück, das drei Steinlagen hoch erhalten ist, nimmt die ± 4.00 m lange Lücke zwischen zwei Felsvorsprüngen ein und bildet mit der inneren Begrenzungsmauer eine rechteckige, ± 2.00 m tiefe, anscheinend nicht bewohnte Fläche. Das Mauerwerk der äußeren Mauer besteht aus zwei grobbehauenen, größeren Steinblöcken und ist wie die innere Mauer 0.70 m breit.

Um die Frage der Siedlungsgrenzen klären zu können, wurde der Nordhang vor dem peripheren Mauerstück in einer Länge von ± 6.00 m untersucht. Eine ± 0.30 - 0.50 m hohe Sandablagerung, die mit archäologischem Material, vor allem mit Bruchsteinen der verfallenen Gemäuer durchsetzt war, breitete sich auf der Gesamtfläche aus. Von der Wassermechanik eingebettet formierten den Hang heruntergerollten Steine im Sand kaskadenartige Anhäufungen, die realen Mauerzügen enttäuschend ähnelten. Aber auch unter dieser obersten Geröllschicht konnten außer verflossenem Lehm und einigen dunkelverfärbten Stellen keine eindeutigen Besiedlungsreste festgestellt werden. Falls diese vorläufige Beobachtung zutrifft, hört die Siedlung von Güvercinkayası hinter der peripheren Mauer auf. Sicher werden noch weitere Folgeuntersuchungen in den bevorstehenden Jahren zur endgültigen Erhellung dieser Frage von Nöten sein.

Die Grabungen auf dem zentralen Hügel (Planquadrate 7-8 H)

⁹ Gülçur 1997a, Farbtafel 2:7.

¹⁰ ders. 1997b, 93.

Bei einer Begehung des Fundortes 1995 fiel am höchsten Punkt des Erdhügels eine Grube besonders auf, die vermutlich in jüngster Zeit von Schatzgräbern ausgehoben worden war. In dem Erdhaufen am Grubenrand lagen grünlich und gelb verfärbte große Lehmbrocken, die durch Hitzeeinwirkung schichtweise festverschmolzen waren. Außerdem ragte ein ± 0.60 m hohes, leicht gekrümmtes Gebilde aus grünlichem Lehm aus dem Nordprofil hervor. Genau an dieser gestörten Stelle, die vor jährlichen Überflutungen geschützt ist, sollte auch mit den großflächig angelegten Untersuchungen begonnen werden.

Die Fläche 7-8 H wird vor allem im Süden und teilweise auch im Osten von steilen Felsen abgeschrmt. Ein Meßpunkt des Katasteramtes ($\Delta 1106.08$ m üM) bildet die Südwestecke des Quadrats 7 H, und die flache Hügelkuppe fällt von hier beginnend in alle Himmelsrichtungen sanft ab. An den Profilen der Störung war klar zu erkennen, daß die Siedlungsreste in diesem Bereich knapp unter der Erdoberfläche ansetzten. So traten auch im wahrsten Sinne des Wortes nach dem ersten Spatenstich die ersten Mauern zutage.

Eine durchschnittlich 1.10 m breite, ostwestlich verlaufende Mauer durchzieht den nördlichen Abschnitt von 7 H (Abb. 2; 17). Auf eine Fläche von ± 68 m² (8.50 x 8.00 m) verteilt, befinden sich südlich wie nördlich von dieser Mauer je zwei Räume (M1-4), die grundunterschiedliche Merkmale aufweisen. Mit Ausnahme von M3 konnten die genauen Grenzen der Räume noch nicht festgestellt werden. Am deutlichsten wurde jedoch die wahrscheinliche Ausdehnung des südöstlichen Eckraumes M4 durch die hochaufragende Felskante, die den Akropolhügel von Süden und gerade an dieser Stelle auch mit einem Vorsprung von Osten abschrmt, vorgegeben.

Raum M1, der einer verheerenden Brandkatastrophe zum Opfer gefallen ist, nimmt im Südwesten des untersuchten Areals die größte Fläche (± 5.75 x 4.80 m) ein. Als Zeichen dieser Verwüstung bestand die Raumverfüllung aus einem dicken Brandversturz, der bis auf die Höhe der vorhandenen Mauerkronen reichte (Abb. 18). Zahlreiche dicke Stücke aus gehärtetem Lehm mit Holz- bzw. Schilfabdrücken (?), die hier wie im Nachbarareal des M4 beobachtet wurden, sind sichere Belege von Bauteilen mit organischem Flechtwerk (Abb. 19). Mit größter Wahrscheinlichkeit fachten diese und ähnliche Teile das ausgebrochene Feuer an und trugen kräftig zur extremen Hitzeentwicklung bei, so daß verschiedene Materialien wie Holz, Lehm, Steine und Wandputz u.a. zu amorphen bzw. übereinandergeschichteten Massen von brauner, grünlicher sowie gelber Farbe zusammenschmolzen oder, wie im nördlichen Raumabschnitt, brüchige hellfarbene Ablagerungen bildeten. Soweit es möglich war, wurden zu allererst die losen und formlosen brüchigen Teile (bis zu einer Tiefe von ± 0.60 -0.80 m) aus dem Brandschutt entfernt. Dagegen wurden festerstarre kompakte Anhäufungen vorläufig nicht angetastet.

Sowohl die Nordwand, an dem sich eine halbrunde, aus Lehm plastisch geformte Nische befindet (Abb. 20), als auch die ± 0.40 m breite westliche Seitenmauer sind mehrschichtig dick und hellverputzt (Abb. 17). Außerdem gibt ein kurzes, ebenfalls hellverputztes Stück entlang der Schnittkante die Bahn der östlichen Innenfassade an. Die Raumbreite, die aus diesen Beobachtungen resultiert beträgt ± 5.00 m.

Die westliche Raumhälfte ist durch einen schmalen ($\pm 3.0 \times 2.00 \text{ m}$), ost-westlich orientierten Mauerstumpf in zwei Hälften geteilt (Abb 17; 18; 21). Die Außenwände dieses Raumteilers sind mit einem dicken Lehmverputz überfangen. Das darunter verborgene Mauerwerk besteht, so wie bei den meisten Sekundärwänden, aus handlichen Steinen, die zweireihig in einer lehmhaltigen Masse aufgeschichtet sind. Die Stirnseite, die besonders glatt verputzt ist, beginnt sich nach einem deutlichen Umbruch knapp unterhalb der noch erhaltenen Maueroberkante hochzuwölben. Zudem dient hier der Mauerkörper den seitlichen Speicheranbauten, die höchstwahrscheinlich in späteren Benutzungsphasen zugefügt worden sind, als Verankerung. Der halbrunde Speicher Ptk.1 ist das besterhaltene Beispiel solcher Einheiten. Innen und außen dick verputzt, daß es nur noch eine Steinbreite von $\pm 0.20 \text{ m}$ aufweist, wiederholt sein aufgehendes Mauerwerk die Lehmmörtelbauweise der schmalen Trennwände. Vermutlich diente eine niedrige Plattform aus Bruchsteinen, die nachträglich mit einer lehmhaltigen Masse ausgekleidet wurde, diesen landwirtschaftlichen Konstruktionen als Unterbau. Diese Bauweise war an allen bisher festgestellten Speichereinheiten angewandt, vor allem auch an jenen im benachbarten Raum M4. Daß viele Architekturteile aus Lehm mit Flechtwerk in und um diese Lagerbauten aufgelesen worden sind, soll hier auch als eine bemerkenswerte Beobachtung dahingestellt werden.

Eine in Form eines Stierkopfes gestaltete Mahlbank westlich von Ptk.1, scheint funktionell in Zusammenhang mit den Speicherbauten zu stehen (Abb. 17; 22). Die Stirnpartie mit dem Hörneransatz wird durch eine hochkant aufgestellte Steinplatte gebildet. Von dieser mittleren Steinplatte ausgehend breiten sich die stilisierten Hörner und der kräftig ausgebildete Nasenrücken aus. Die abgestuften Augenhöhlen jeweils rechts und links vom Nasenrücken blieben wohl, wie ein in situ Mahlstein belegt, für die Mahltätigkeit ausgespart. Die noch vorhandene Spannweite der Hörner beträgt $\pm 1.00 \text{ m}$. Das ganze Gebilde bzw. kunstvoll gestaltete Gebrauchsplastik aus Lehm (?) ist über und über mit neuem Verputz versehen gewesen.

Gleich südlich der Mahlbank wird die Fläche entlang der Schnittkante von einer Versturzschiene aus Bruchsteinen und östlich davon von einem mächtigen Kuppelofen Fr.1 eingenommen. Dieser große Kuppelofen, von dem nur einen Teil seiner dicken und rotverbrannten Ofenplatte freigelegt werden konnte, ist an die östliche Raumwand angelehnt. Seine Ummantelung aus Lehm und Steinen war während der Brandkatastrophe unter großer Hitzeeinwirkung zum Teil zu einem formlosen Gebilde zusammengeschmolzen.

Hinter dem Ofen zweigt von der langen Ostwand eine kurze verputzte Flucht mit mehreren Anstrichphasen in ostwestlicher Richtung ab. Da diese Flucht von den hohen Brandablagerungen abgeschildert wurde, war ihre Weiterverfolgung nicht möglich (Abb. 17; 21). Ob sie ein Pendant, zu dem ihr gegenüberstehenden Raumteiler darstellt, ist noch zu klären.

Raum M4, der sich im Osten den Raum M1 anschließt, verdient besondere Aufmerksamkeit. Abgeschildert sowohl im Osten, als auch im Süden von hohen Felsen und zu der Siedlung hin von der kräftigen Quermauer, liegt er an einer besonders geschützten Stelle. Hier sind mehrere Speichereinheiten/Silos (Ptk.2-7; $\varnothing 1.00\text{-}1.50 \text{ m}$), die honigwabenartig aneinander gebaut sind, auf die Untersuchungsfläche ($\pm 3.50 \times 4.50 \text{ m}$) verteilt

(Abb. 17; 21 Bildrand oben). Die innere Reihe dieser annähernd runden bzw. ovalen Behälter ist, ähnlich wie bei einigen Beispielen in Raum M1, an den Innenwänden verankert. Die dem Raum M4 zugekehrte Seite der starken Nordwand weist an der nordöstlichen Raumecke einen ± 0.60 m tiefen Absatz auf (Abb. 17). Nachdem sie am Fuße vor diesem Absatz einen plattformartigen Vorsprung gebildet hat, setzt sie sich jedoch als eine gewöhnliche Mauer, die zwei Steinlagen breit ist, fort. Der nordwestliche Ecksilo berührt mit seiner Unterkante den plattformartigen Vorsprung. Diese Feststellung läßt jedoch erneut die Vermutung, daß die Speicheranlagen in 7-8 H während einer späteren Phase der Besiedlung hinzugefügt worden sind, aufkommen, und so bleibt vorläufig die stratigraphisch sichere Zuordnung der einzelnen Befunde problematisch.

Über die Inhalte der einzelnen Behälter ist nicht viel zu berichten. Alle aufgedeckten Siloböden waren von heller Farbe und sauber verputzt. Nur auf dem gestörten Boden von Ptk. 7, der vor der östlichen Schnittkante starke Brandspuren aufwies, konnte ein knubbenverziertes Henkelkrug sicher gestellt werden (Abb. 24; 26:1). Außerdem lagen südlich der Speicheranlagen Bruchstücke von einigen Gefäßen verstreut, die in den bevorstehenden Kampagnen näher untersucht werden müssen.

Räume M2 und M3 teilen die schmale Grabungsfläche vor der Querwand (Abb. 17). Über M2, der nur teilweise aufgedeckt wurde, ist noch nicht viel zu bemerken. Hier nimmt eine dicke Ofenplatte, die sich zum größten Teil unter der nordwestlichen Schnittkante fortsetzt, einen erheblichen Teil des Raumes ein. Dieser Raum wird durch eine wuchtige, höchstwahrscheinlich sekundäre Auffüllschicht aus Bruchsteinen vom Raum M3 getrennt. Die starke Quermauer scheint in diesem Bereich der Auffüllung als Grundierung gedient zu haben. Ein hufeisenförmiger, zerstörter Kuppelofen (Tn. 1) mit mindestens vier bis fünfmal wiederholtem Kuppelverputz stützt sich an dieser Auffüllung ab. Von dem Ofen geht eine zweite, mit Lehm und Bruchsteinen durchmischte Raumverfüllung gemäß dem Gefälle in ostwestlicher Richtung aus und blockiert den Westabschnitt der schlauchartigen Kammer M3 (1.75 x 4.50 m). Der Höhenunterschied vom Tn. 1 im Westen (M3b) bis zur obersten Begehungsfläche im Osten (M3a) beträgt ± 0.60 m ($\pm \Delta 1105.69 \rightarrow 1104.70$ m üM.). Auf dem Fußboden der östlichen Raumhälfte (M3a) vor der Querwand ist eine kleine viereckige Feuerstelle (Oc. 1) platziert, die aus hochkantig aufgestellten handlichen Steinplatten umrandet ist (Abb. 23). Eine schmale kanalähnliche Lücke, die die Querwand gleich hinter der Feuerstelle durchzieht, scheint in einer wiederum späteren Phase mit Hilfe von keilartigen Steinen zugestopft worden zu sein. Ob diese Öffnung als Belüftungskanal oder als Rauchabzug auszulegen ist, muß erst noch einer gründlichen Untersuchung unterworfen werden.

Die keramischen Funde

Während der diesjährigen Grabungstätigkeiten auf dem Güvercinkayas gab es im Vergleich zum Vorjahr, auch wenn nur fragmentarisch, eine Zunahme der in situ Gefäße. In dieser Hinsicht war Raum M10 in Quadrat 5 K besonders ergiebig. Alle Gefäße, die hier

inventarisiert wurden, gehören wie die meisten keramischen Funde in die erste, schwarzpolierte Warengruppe (W I), die ihre nächsten Vergleichsstücke in den chalkolithischen Schichten von Alişar und Köşk Höyük findet¹¹. Ein Pithosfragment mit stumpfkönischem Wackelboden sowie unter dem Bauchumbruch gegenständig und paarweise angebrachten Schlaufenhenkeln ist besonders zu vermerken (Abb. 25). Vermutlich gehört auch der handgemachte Henkelkrug mit leicht erhöhter Standfläche in diese Gruppe (Abb. 24; 26:1). Dieses im Silogebiet in 7 H aufgedeckte blaßziegelrote Gefäß, das vermutlich sekundär gebrannt und so gänzlich oxidiert wurde, hat einen runden ausladenden Bauch, auf dem Bauchumbruch locker, in Dreiergruppen applizierte einfache Zierknubben sowie einen hohen scharf abgesetzten konischen Hals. Der recht plumpe Henkel, der leicht angewinkelt ist, reicht vom einfach gebildeten Rand bis zum Bauch hinab. Er weist auf der Henkeloberfläche eine ovale Vertiefung auf, die vom Daumen des Töpfers herrühren müßte.

Anscheinend gehören auf den Gefäßkörper senkrecht bzw. horizontal aufgereichte Knubben zu den neuen Verzierungselementen der Gruppe WI (Abb 26:2).

Ein annähernd glockenförmiger kleiner Trichter von brauner sowie recht sorgfältig polierter Oberfläche mit kleiner Ausußöffnung (Abb. 26:3) und ein häckselgemagertes Miniaturgefäß (Abb. 26:4) runden, neben zahlreichen Pithosfragmenten, das Bild der inventarisierten Stücke ab.

Ware II in Schwarz- und Brauntönen mit V-Musterverzierung wurde, wie in der vorausgehenden Kampagne 1996, nur an Hand von einigen Beispielen festgestellt.

Ware III, die Ware der konischen Schalen mit aufgerauter Oberfläche nahm, wie zu erwarten war, nach WI prozentual die zweitgrößte Gruppe innerhalb der keramischen Funde ein.

Ob der kleine, leicht abgeflachte hellfarbene Tonklumpen (Abb. 26:5), der an den Rändern kleinen Einkerbungen ähnelnde Risse aufweist ein Zufallsprodukt ist oder Teil einer Plombiervorrichtung darstellt, ist nicht noch nicht zu beantworten.

Knochen- und Geweihgeräte

Hörner von domestizierten Tieren und Teile von Hirschgeweihen, die bewußt auf den Fußböden der Räume einzeln, paarweise oder aber in Gruppen niedergelegt waren, fielen immer wieder auf. Zu diesem üblichen Deponiergehabe gesellten sich auch Beispiele, die zwischen dem Geröll von Aufschüttungen, unter einer Lehmpackung eingebettet waren (Abb. 14). Es ist nicht auszuschließen, daß einige von diesen Funden, vor allem diejenigen, die paarweise niedergelegt (Abb. 12) oder eingebettet worden waren, einem kultischen Zweck gedient haben. Eine beträchtliche Zahl müßte jedoch, wie schon erwähnt, einen gewissen ökonomischen Wert als Rohstoff bei der Herstellung von handwerklichen Erzeugnissen oder aber bei der Gerätemanufaktur darstellen. Ein erstes Beweis in dieser Richtung konnte an Hand von Geweihfunden erstellt werden (Abb. 27).

¹¹ Für die Warengruppen und ihre zeitliche Einstufung siehe: Gülçur, 1997b, 95-97, Abb. 22-29.

Auffallenderweise waren bei allen sichergestellten Schaufel- bzw. Stangenteilen die Sprosse abgesägt. Die meisten, ganzerhaltenen Sprossen hatten an der Wurzelpartie und manchmal auch am Schaft Einkerbungen (Abb. 27:1-2). Solch ein bogenartig gekrümmter Austrieb, mit einer Spannweite von ± 0.32 m, stammt höchstwahrscheinlich von einem stattlichen Hirsch. An diesem Beispiel wurden zum erstenmal neben Einkerbungen auch deutliche Umwicklungsspuren beobachtet, die von einer Art dünnen Schnur bzw. Sehne stammen könnten (Abb. 27:1). Dagegen stellten, $\pm 5-7$ cm lange Sprossenstücke sowohl Rohlinge (Abb. 27:3), als auch Fertigprodukte (Abb. 27:4) von Zwischenfuttern dar. Außerdem war eine lange Sprosse zu einem Gerät mit leicht abgeflachtem Nacken und rundem Schaftloch verarbeitet worden (Abb. 15; 28:2).

Unter den Knochengeräten waren Ahlen in dieser Kampagne zahlenmäßig am stärksten vertreten (Abb. 28: 4-7). Meistens sind sie aus Langknochen, der verschiedensten Tierarten produziert.

Das Fragment einer sorgfältig polierten Gürtelschnalle (Abb. 28:1) und das obere Teil eines Griffes mit leicht abgeflachtem Kolbenkopf und querdurchlochter Hängeöse (Abb. 28:3) sind hier unter den Kleinfunden besonders zu erwähnen.

Reibsteine und Reibsteingeräte

Auf dem Güvercinkayası kommt diese Gruppe eine wichtige Bedeutung zu (Abb. 29-30). Vor allem betonen sie in ihrer Formenvielfalt, hergestellt aus lokalen unvergänglichen Gesteinssorten, die schwerwiegende Bedeutung dieses Industriezweiges im Alltagsleben der Bevölkerung. Ohne diese Hilfsmittel wäre die landwirtschaftliche Produktion sicherlich in vieler Hinsicht einseitiger gewesen. Obwohl noch keine eindeutigen Belege über die Kulturpflanzen und aus diesen gewonnenen Erzeugnissen erbracht werden konnten, beweisen, neben den Speicheranlagen und der Mahlbank in 7 H, die zahlreichen in situ Funde von Reibsteinen (Abb. 17; 22) ein reges Vorhandensein von solchen Aktivitäten. Wie bereits oben erwähnt, dienten vermutlich zwei, in dem selben Raum (5K/M1) aufgefundenen doppelkonisch zentral durchlochten Obersteine von Handmühlen (?) zur Produktion von kleineren Mengen (Abb. 29:3). In diesem Zusammenhang dürfte eine kleine, aus hartem basaltähnlichem Gestein sorgfältig geformte Flachschele mit Einschränkungen als Mörser ausgelegt werden (Abb. 28:1).

Zwei weitere aus lokalen, weniger attraktiven Gesteinssorten hergestellte Exemplare dürften dagegen vorläufig in eine andere Gruppe eingestuft werden. Beide weisen auf dem Gefäßboden der Innenflächen jeweils eine kleine Vertiefung auf, die durch das Drehen einer relativ spitzen Gegenstandes an gleicher Stelle hervorgerufen worden sein könnte (Abb. 29:2).

Ein Rädchen aus leichtem Tuffgestein war höchstwahrscheinlich mit annähernd quadratischer beidseitiger Eindellung über der zentralen Durchlochung, ebenfalls Teil einer technischen Einrichtung (Abb. 29:4).

Das Nackenstück eines kleinen, in der Mitte durchgebrochenen Flachbeiles aus grünlichem Gestein ist das einzige Beispiel aus seiner Gruppe (Abb. 29:5).

APPENDIX

A First Note on the Faunal Remains of GüvercinkayaşıH. Buitenhuis¹

The faunal remains from the 1996 and 1997 excavation campaigns of Güvercinkayaşı were analyzed. Out of practical considerations attention was directed only on the diagnostic elements such as horncores, large skull parts, epiphyseal ends of postcranial bones, mandibulac and maxillae. Other fragments such as rib, vertebrae and diaphyseal fragments were categorized in size categories and only counted but not further analyzed. As such, the identified remains are basically the same for each species and represent the relative occurrence of each.

In total, 3436 remains were counted, of which 1155 were identified (table 1). At least 17 different species were recognized.

The majority of the remains are from domestic sheep and goat (n=736, 63.7% of the identified remains). Of these, 177 are from sheep, *Ovis aries*, and slightly less (120) are from goat, *Capra hircus*. Of the total of 736 remains 126 were from horncores (82 of sheep and 44 of goat), many of which were more or less complete. Most horncores of sheep are short, while the horncores of goat are often quite long and slightly twisted (table 2). Only one core could be attributed to a wild sheep, *Ovis orientalis*. Quite often the cores were found in groups together, suggesting that they were purposely collected, either for working the horns sheaths, or other, perhaps ritualistic, reasons.

An interesting feature is the age-grouping of the occupied remains. There are very few postcranial remains of very young animals and the number of remains with unfused epiphyses is also very low. The dental remains, analyzed according to Grant (1982), also shows a similar pattern (Table 3). It shows that 66% of the dental remains are from animals with a mandibular wear stage of 30 or higher, approximately 2.5 years and older. Of these, evidence on the pubis of the pelvis suggests that 73% were females. This suggests that sheep and goat were kept as females to a rather old age, which could indicate that milk was a primary product.

The second largest group are cattle, with 144 bones (12.5% of the identified remains). All elements are present, with horncores and metapodials the most numerous. Again by far the majority of the remains are from fully mature animals.

The third most numerous group are the Cervidae (n=76). Remains of red deer, *Cervus elaphus*, were found (n=7), of fallow deer, *Dama dama* (n=2) and of roe deer, *Capreolus capreolus* (n=1). The majority of the remains are parts of antler, quite often worked as tools or the debris of tools making. It is quite possible that many of these parts are from collected shed antlers and not from hunted animals. Based on the size of the estimated diameter of the columns from these fragments and on the size of the tines one

¹ Groningen Institute of Archaeology, The Netherlands.

would believe that a large number of these remains are from red deer antlers.

The fourth group in the material are the Equids. The 81 remains are of at least two species: horse and a small slender equid. The horse remains are the least numerous. Thirteen could be recognized due to their distinctive size, while the other 68 remains are mainly from the small equid (table 4). The question arises what kind of equids these were; were the horses wild (*Equus ferus*) or domestic (*Equus caballus*) and are the small equids domestic donkeys or wild *Equus hydruntinus*. Further analysis needs to be done, which was not possible in the context of this elementary analysis. Although no absolute dating of the site is at yet available, on the basis of relative typology of the ceramics, the site is dated to the Late Obeid of Early Uruk periods (c. first half of the 4th millennium BC); (Gülçur, 1997). If this is born out, then the horses could very well be wild, as wild horses are now known to have existed in Anatolia at least to the Late Chalcolithic, as evidenced by remains from sites as neolithic Asikli Höyük (Buitenhuis, 1996, in print). Arslantepe (Bökönyi on the cover of ASWA III, 1998) and Norsuntepe (Boessneck and von den Driesch, 1976). It would also be very unlikely at this period if the small equids were domestic asses. It would however also be evidence that the small *Equus hydruntinus* did not become extinct at the end of the Neolithic, but survived as the wild horse until the Late Chalcolithic. The presence of these animals at that stage may have important implications about the "introduction" of the domestic forms in Anatolia. A careful study of the dental enamel patterns will have to provide further answers.

One other species stands out in number, *Vulpes vulpes* - the red fox. Although high in number, at least 8 bones are probably from one individual and one almost complete cranium is quite different in colour and surface facies, suggesting to be intrusive.

Conclusion

A collection of animal remains from the relatively dated site of Güvercinkayaşı shows on first analysis some remarkable evidence. Horncores of sheep, goat and less of cattle were purposely collected, either for artisanal hornsheath work or other, perhaps ritualistic, purposes. Furthermore, the age and sex data suggest the possibility of milking these animals as a primary production, one of the earliest known instances showing this pattern that clearly.

Of the utmost importance is also the recovery of the remains of *Equus ferus/caballus* and of *Equus hydruntinus/asinus*. The clarification of their exact species identification will give new impetus to our understanding of the process of domestication or introduction of their domestic forms in this area.

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Table 1. Number of Identified Specimen (NISP) and percentages of the animal remains at Güvercinkayaşı 1996 and 1997.

common name		NISP	%
unidentified:			
size hare to dog		3	0.1
size sheep-goat		1865	81.8
size deer		18	0.8
size cattle		394	17.3
size wild cattle		1	0.0
Total unidentified:		2281	100.0
identified domestic:			
<i>Canis familiaris</i>	dog	9	0.8
<i>Sus domesticus</i>	pig	18	1.6
<i>Ovis aries</i>	sheep	177	15.3
<i>Capra hircus</i>	goat	120	10.4
<i>Ovis/Capra</i> sp.	sheep or goat	439	38.0
<i>Bos taurus</i>	cattle	144	12.5
wild or domestic:			
<i>Canis familiaris/lupus</i>	dog or wolf	3	0.3
<i>Canis/Vulpes</i> sp.	dog or fox	7	0.6
small ovicaprid/cervid		1	0.1
large ovicaprid/cervid		2	0.2
<i>Bos taurus/primigenius</i>	cattle or auroch	1	0.1
wild:			
<i>Vulpes vulpes</i>	red fox	37	3.2
<i>Equus</i> sp.	small equid	68	5.9
<i>Equus ferus/caballus</i>	horse wild/dom.	13	1.1
<i>Cervus/Dama</i> sp.		66	5.7
<i>Cervus elaphus</i>	red deer	2	0.2
<i>Dama dama</i>	fallow deer	7	0.6
<i>Capreolus capreolus</i>	roe deer	1	0.1
<i>Ovis orientalis</i>	wild sheep	1	0.1
<i>Lepus capensis</i>	hare	11	1.0
small rodentia	small rodent	3	0.3
<i>Aves</i> sp.	bird	3	0.3
<i>Testudo</i> sp.	tortoise	22	1.9
Total identified		1155	100.0

Table 2. Statistics of the measurements (mm) of the horncores of the ovicaprids.

	N	min.	max	mean	st.dev.
<i>Ovis aries</i>					
greatest diameter base	36	27.0	49.8	37.1	6.06
least diameter base	35	13.6	31.5	21.5	4.46
basal circumference	33	71.0	127.8	96.6	16.16
length outer curvature	20	82.2	140.8	101.7	18.88
length inner curvature	18	56.6	96.5	74.9	11.68
<i>Capra hircus</i>					
greatest diameter base	9	28.9	48.6	39.0	7.99
least diameter base	9	16.4	31.8	24.3	6.14
basal circumference	9	73.9	124.6	99.4	20.01
length outer curvature	5	96.4	242.9	159.4	64.76
length inner curvature	5	83.0	213.0	144.5	62.55
<i>Ovis orientalis</i>					
greatest diameter base	1	54.4			
least diameter base	1	38.3			
basal circumference	1	153.1			

Table 3. Histogram of the number of dental elements of Ovis/Capra in the approximate dental wear stage.

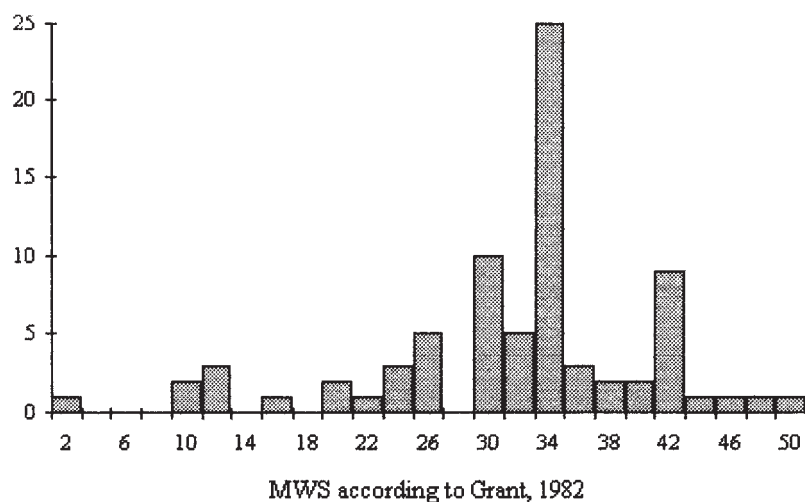


Table 4. Measurements (mm) of the postcranial remains of Equidae (according to Von den Driesch, 1976); (small = *Equus hydruntinus/asinus*, horse = *Equus ferus/caballus*, see text).

scapula				SLC		GLP	LG	BG
small	.	.	.	45.2	.	69.6	45.4	38.2
small	.	.	.	49.0	.	75.4	47.8	39.1
small	.	.	.	.	.	.	45.2	36.5
small	.	.	.	.	.	.	44.9	.
humerus							Bd	BT
small	.	.	.	.	.	.	62.9	62.1
metacarpus III	GL	Bp	Dp					
small (juv)	141.3	29.7	20.0	.	.	.	.	.
tibia							Bd	Dd
horse	.	.	.	.	.	.	63.7	46.8
small (juv)	.	.	.	.	.	.	37.6	25.2
small	.	.	.	.	.	.	50.4	36.4
astragalus	GH	GB	BFd	LmT				
small	46.8	41.5	38.0	46.6	.	.	.	.
metatarsus III	Bp	Dp						
small	42.8	27.3	.	.	.	.	.	.
metapodium					Bd	Dd		
small	.	.	.	.	39.0	27.8	.	.
small	.	.	.	.	36.8	28.6	.	.
small	.	.	.	.	35.3	27.2	.	.
phalanx I	GL	Bp	Dp	SD	DD	Bd	Dd	
horse	81.3	54.9	36.3	35.0	20.2	42.2	24.0	.
small ?	81.2	38.5	29.7	23.5	16.2	31.6	19.4	.
small	73.7	37.9	29.7	24.0	16.9	32.6	19.0	.
phalanx II	GL	Bp	Dp	SD	DD	Bd	Dd	BFp
small	39.3	39.2	26.6	34.5	19.0	36.7	22.9	36.3
small	38.0	37.8	26.1	32.0	18.2	33.1	21.9	34.0
small	38.4	37.1	26.1	31.0	17.6	33.6	20.7	34.9
small ?	40.2	40.5	26.5	34.4	17.4	38.3	21.3	38.2
phalanx III	GL	Ld	GB	BF	LF	H		

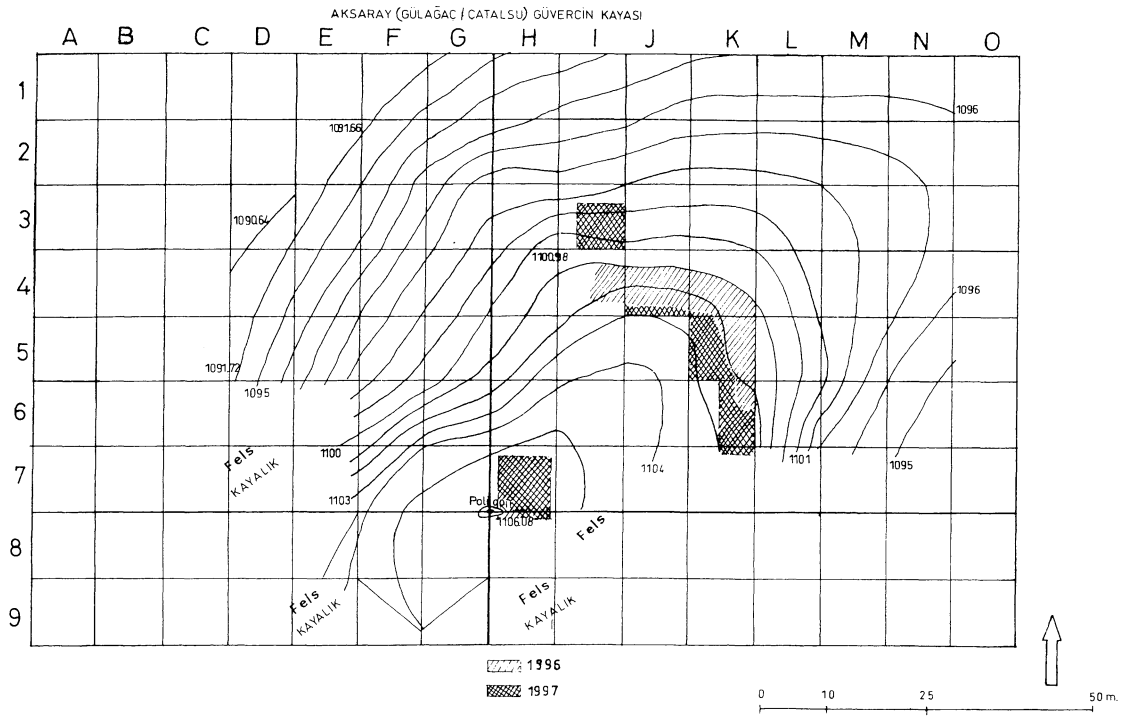


Fig. 1. Güvercinkayası. Topographischer Plan mit Grabungsflächen.

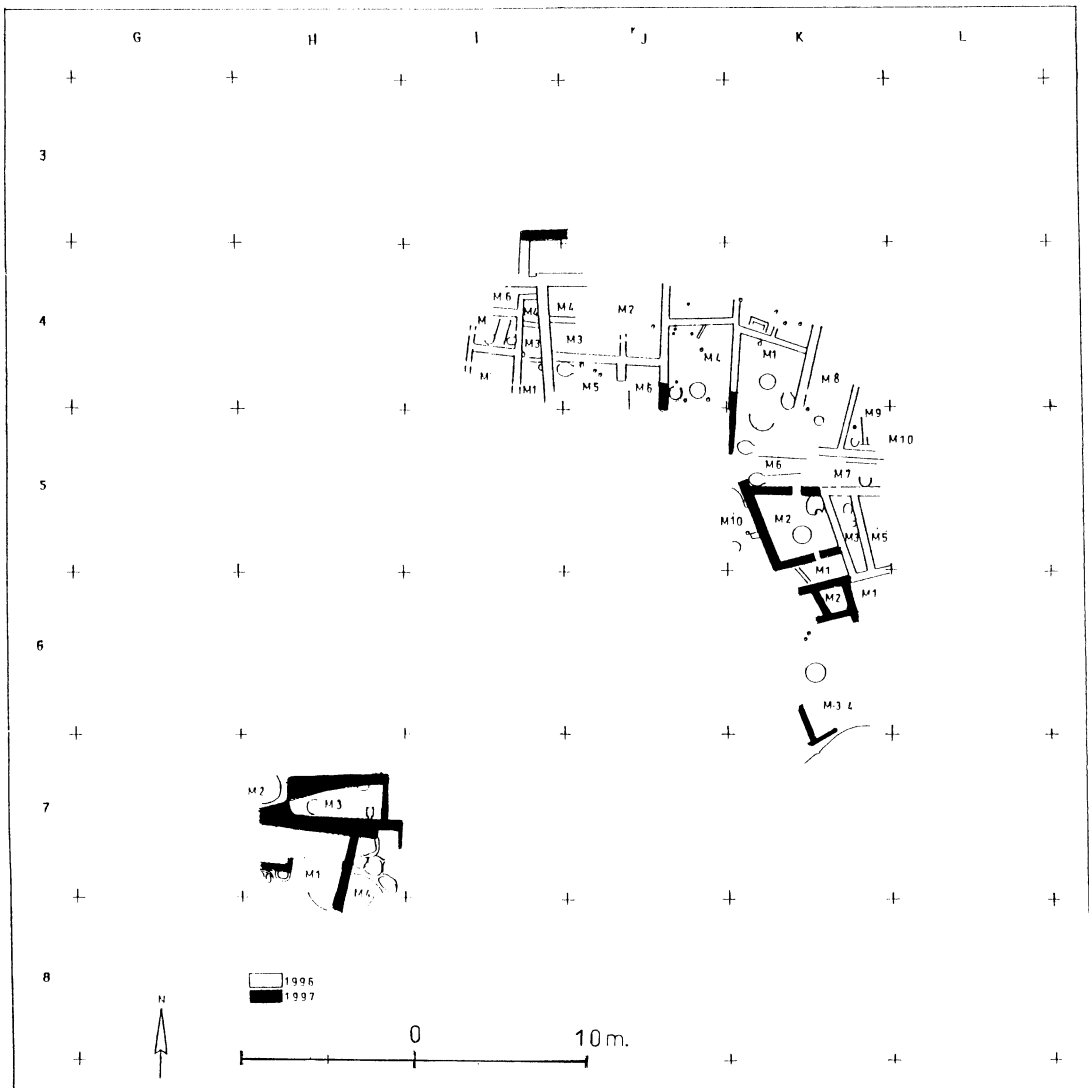


Fig. 2. Güvercinkaya. Schematischer Plan der Bebauung.



Fig. 3. Ostterasse Areal 5-6 K. Stufenartig angeordnete Räume von Süden. Im Vordergrund 6 K/M2.



Fig. 4. Schnitt 5 K Raum M1 von Osten. Untere Raumverfüllung mit Scherben von zerbrochenen Gefäßen.



Fig. 5. Schnitt 5 K Räume M10 und M2. Gesamtansicht von Süden mit in situ Rauminventar.



Fig. 6. Schnitt 5 K/Raum M2 Gesamtansicht von Osten.

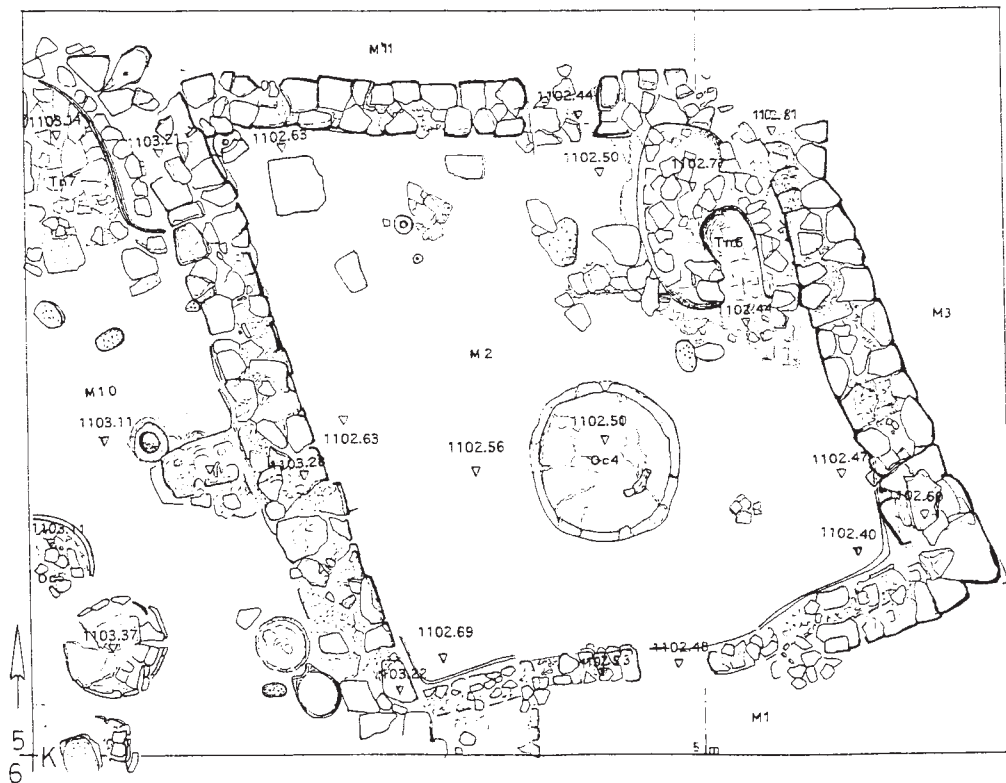


Fig. 7. Schnitt 5 K/Räume M10 und M2. Schematischer Plan.



Fig. 8. Schnitt 5 K/Raum M2 Kuppelofen Tn.6.



Fig. 9. Schnitt 5 K/Raum überbauter Aufweg.
Gesamtansicht von Westen.



Fig. 10. Schnitt 4 J/Raum M1 Erweiterung.
Gesamtansicht von Norden.



Fig. 11. Schnitt 4 J/Raum M1. Hufeisenförmiger Glutbehälter (?) mit in situ Hörnerpaar. Im Vordergrund ein Pfostenloch.



Fig. 12. Schnitt 4 J/Räume M 5-6. Erweiterung nach Süden. Gesamtansicht von Norden.



Fig. 13. Schnitt 4 J/Raum M5. Hörnerpaar von domestizierter Ziege unter einer Leimbepackung.

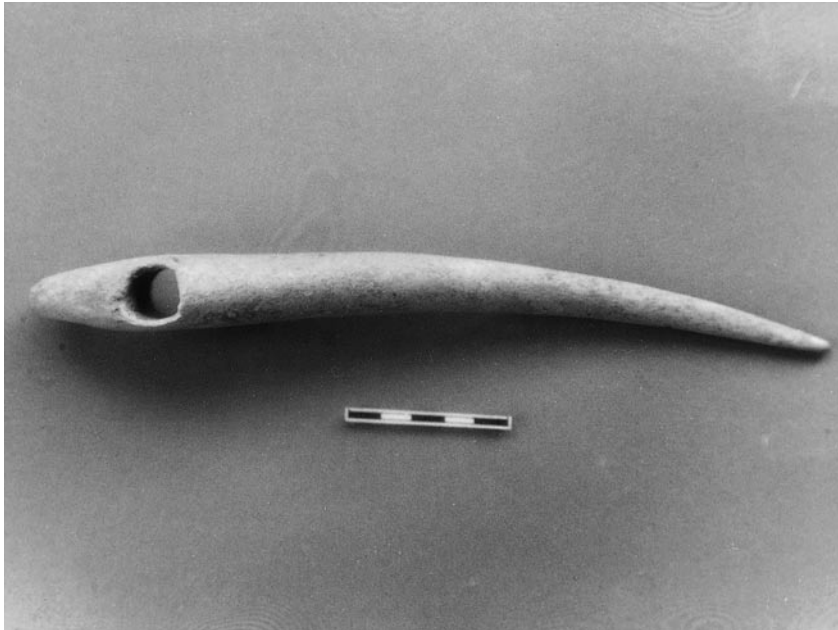


Fig. 14. Schnitt 4 J/Raum M5.
Geweihgerät mit leicht abgeflachtem Nacken und rundem Schaftloch.



Fig. 15. Schnitt 4 J/Raum M5. Steinmörser aus basaltähnlichem Gestein.

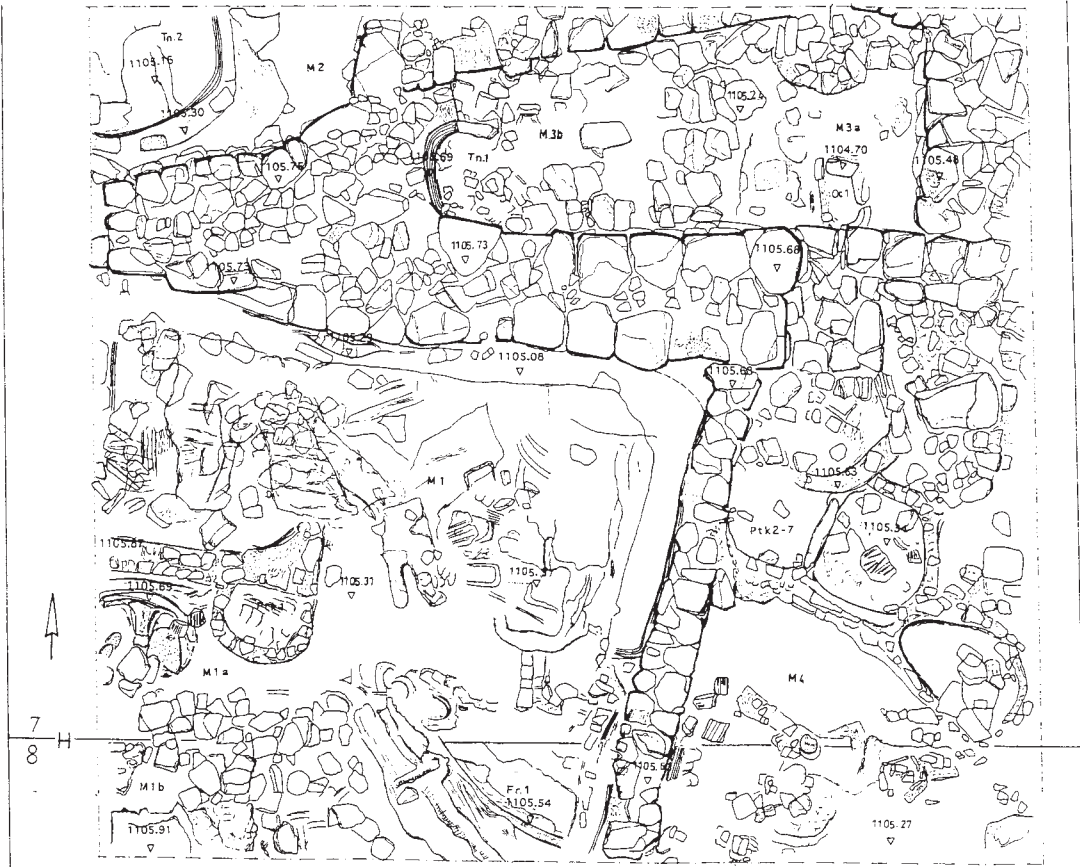


Fig. 16. Fläche 7-8 H. Schematischer Plan der Bebauung.



Fig. 17. Fläche 7-8 H/Raum M1 Brandhorizont. Gesamtansicht von Süden.



Fig. 18. Fläche 7-8 H/Siloanlage. Bauteil aus Lehm mit Holz- bzw. Schilfabdrücken (?).



Fig. 19. Schnitt 7 H/Raum M1. Plastisch gestaltete Nische an der Nordwand des Raumes.



Fig. 20. Fläche 7-8 H/Raum M1 und im Hintergrund Siloanlage. Gesamtansicht von Westen.



Fig. 21. Fläche 7 H/Raum M1a. Mahlbank in Form eines Stierkopfes.



Fig. 22 Fläche 7 H/Raum M3a. Viereckige Herdanlage.



Fig. 23. Fläche 7-8 H/Raum M4 Speicher Ptk. 7. Keramik (WI), knobbenverziertes Henkelkrug.



Fig. 24. Schnitt 5 K/Raum M10. Keramik (WI), schwarz poliertes Pithosfragment mit Doppelhenkel und konischem Wackelboden.

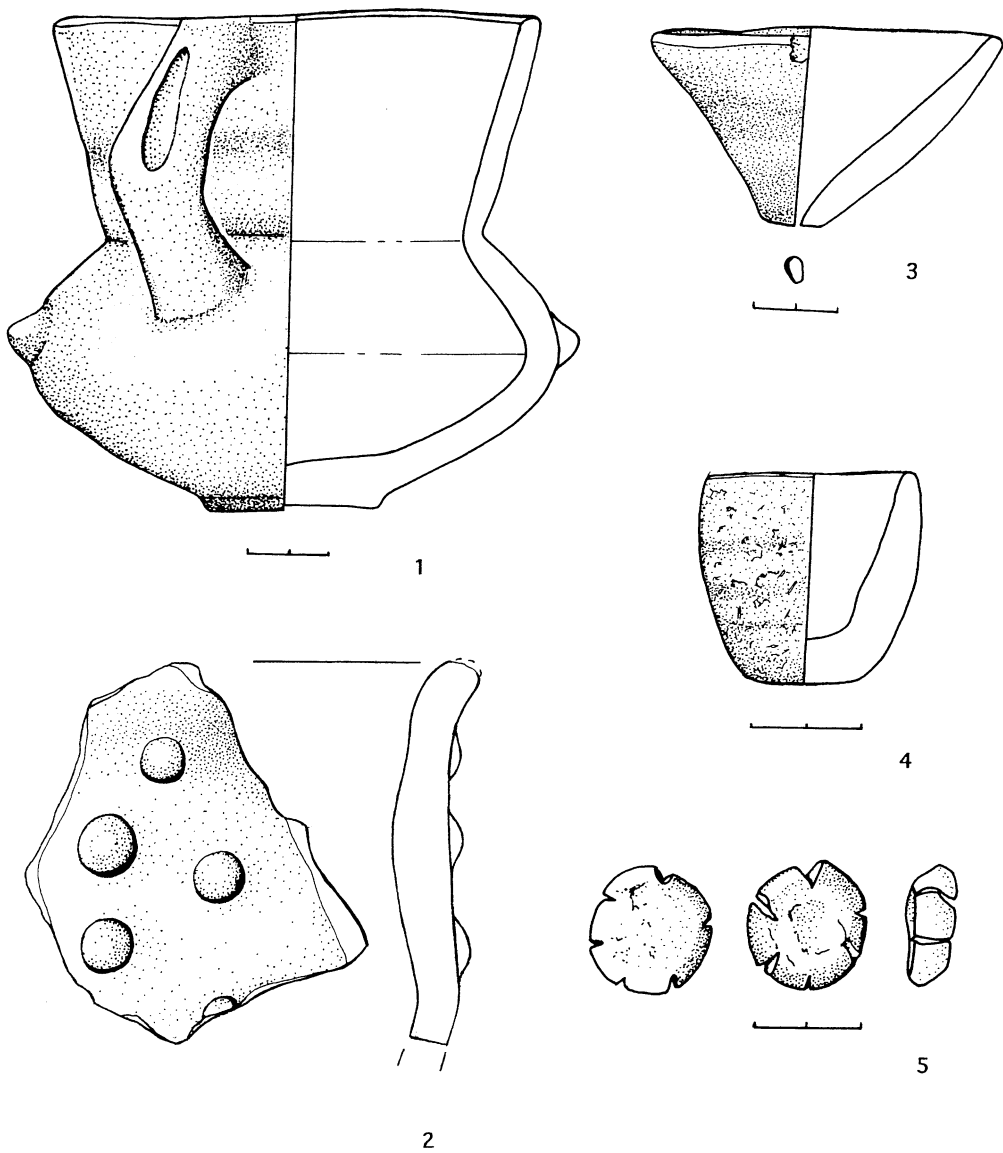


Fig. 25. Keramik. (Ware I) 1-3; Miniaturgefäß 4; bearbeiteter Tonklumpen 5.

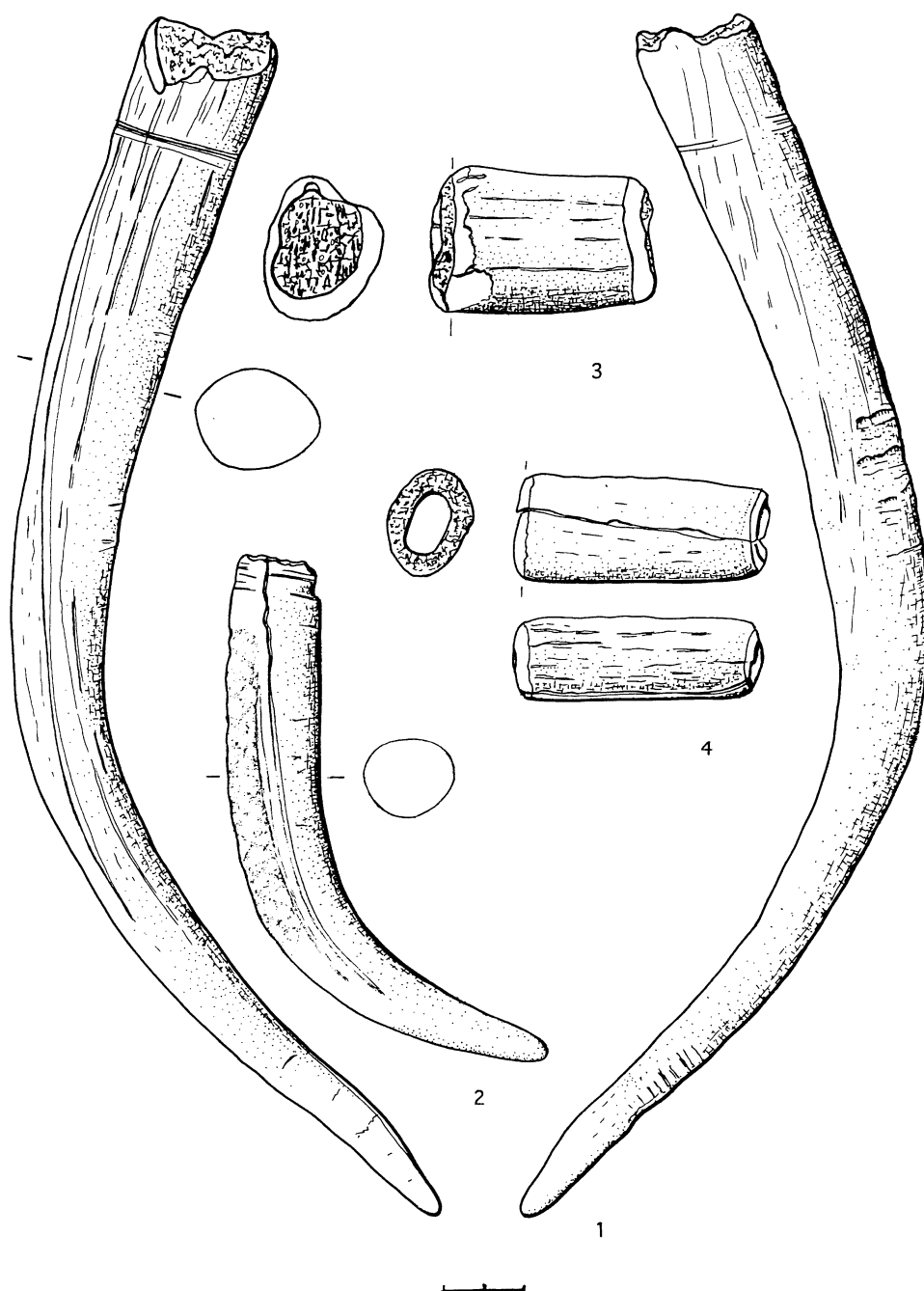


Fig. 26. Geweihfunde. Sprossen mit Einkerbungen 1-2; Rohling 3; Zwischenfutter 4.

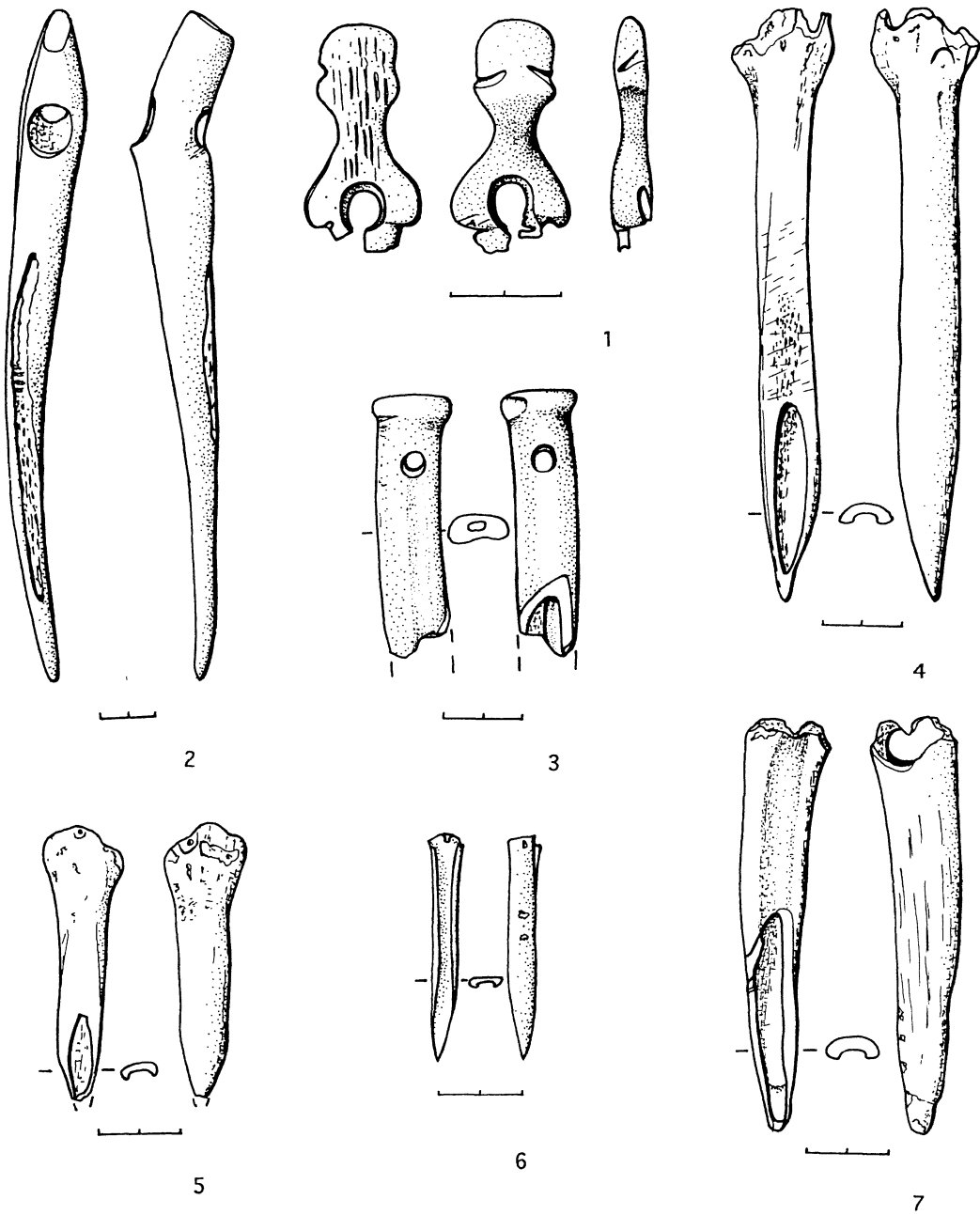


Fig. 27. Knochen- und Geweigeräte. Schnallenfragment aus Knochen 1; Geweihgerät mit Schaftloch 2; Knochengriff mit Hängeöse 3; Knochenahnen 4-7.

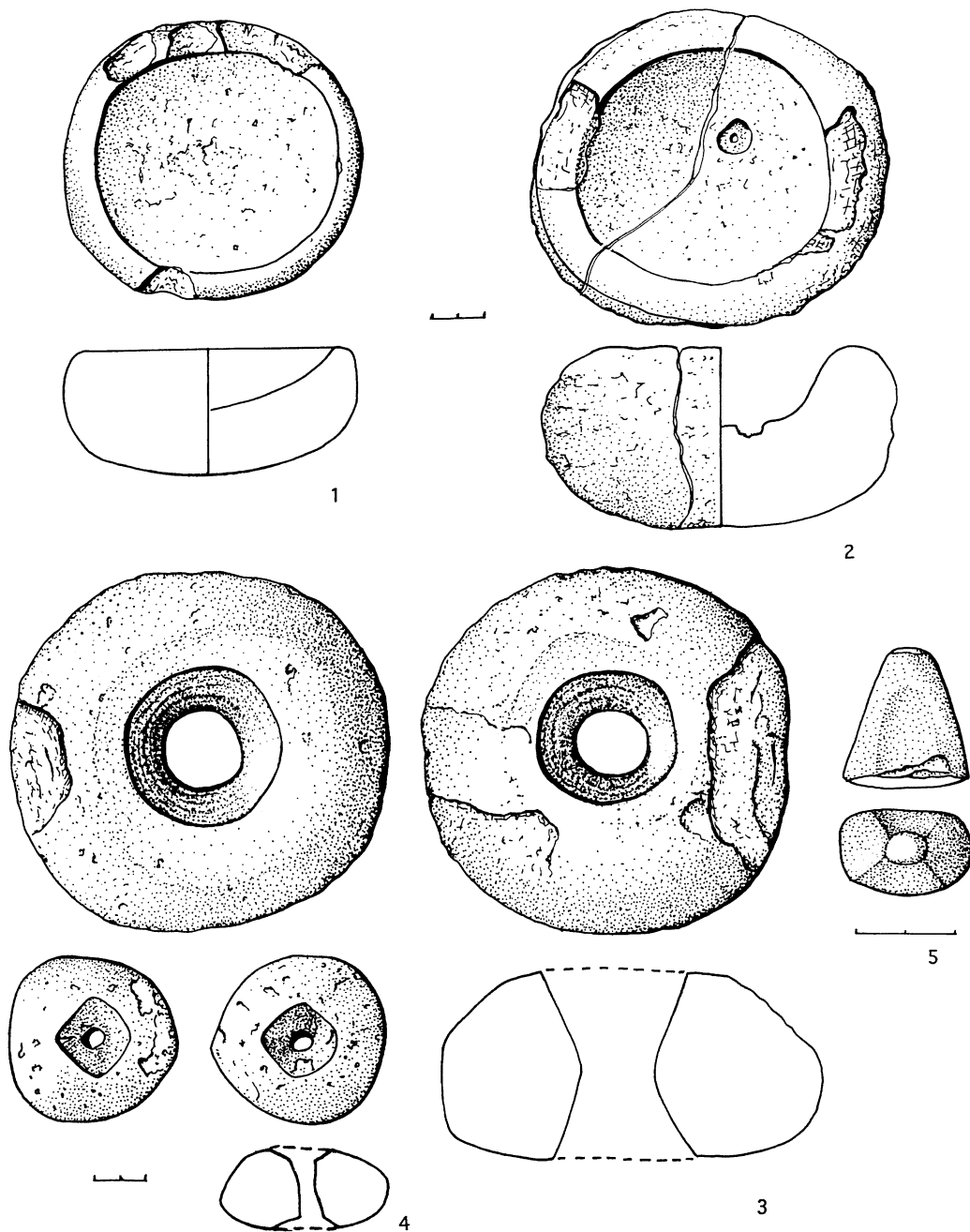


Fig. 28. Reibsteinfunde. Mörser 1; Steinschale mit Eintiefung 2; doppelkonisch durchlochter Mühlstein 3; Rädchen aus leichtem Tuffgestein 4; Flachbeilfragment 5.

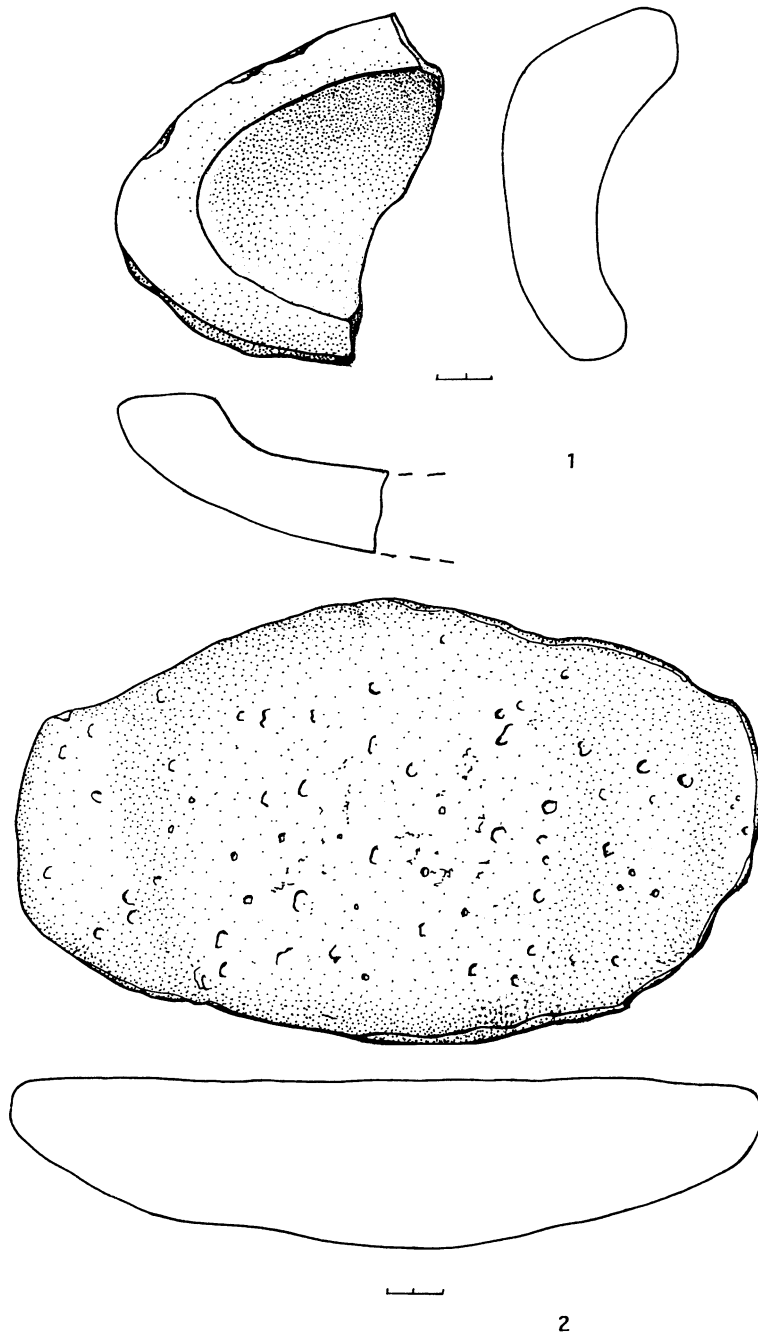


Fig. 29. Reibsteine.

A NEW EARLY BRONZE AGE CEMETERY: EXCAVATIONS NEAR THE BİRECİK DAM, SOUTHEASTERN TURKEY

Preliminary Report (1997-98)

Kemal Sertok, Rıfat Ergeç

Introduction

Following the discovery of ancient burials in clay beds that were being exploited for the Birecik Dam project on the Euphrates, a rescue operation began in the spring of 1997 at the construction area of the dam. Because the graves were protected by a pluvial deposit 1.5 to 2 m in depth, these burials had survived virtually intact. Unfortunately, a large number of them were destroyed during the initial exploitation of the clay beds.

The aim of the initial stages of the excavation was to uncover the burials that needed to be urgently rescued, and to investigate the extent of the cemetery in order to determine the limits of the area that had to be protected. By the end of the second week it had become clear that the excavation team was facing a very important Early Bronze Age cemetery that covered an area of almost 3 hectares. In the meantime, the archaeologists were pressed for time, as the clay beds had to be made accessible for the completion of the dam project. A large part of the cemetery was excavated under these conditions and a total of 312 burials were unearthed in two seasons (5 April - 17 July 1997 and 15 June - 5 October 1998). In the southwest part of the cemetery, an area of 90x40 m was left unexcavated and placed under protection.

The project was directed by Rıfat Ergeç (director of the Gaziantep Museum) and the fieldwork by Kemal Sertok (Gaziantep Museum). The 1997 excavation team consisted of Mehmet Önal (Gaziantep Museum, Atila Engin (Hacettepe Univ., Ph.D. student), İsmail Özer (Ankara Univ., Ph.D. student), students Bekir Köşker (Istanbul Univ.) and Emrah Çankaya (Ankara Univ.) who participated in the project for varying lengths of time. Museum technician Mahmut Yıldırım and site guard Nusret Özdemir were very helpful in solving practical excavation problems. Restorers Kathryn Keith (Virginia Museum of Fine Arts) and Katherine May (Buffalo State College) of the Hacinebi Tepe Excavations cleaned and conserved a part of the metal finds. We thank them and Dr. Gil Stein, the director of the Hacinebi Tepe Excavations for their friendly assistance (Sertok and Ergeç in press).

The 1998 excavation team consisted of Filomena Squadrone (Assistant Field Director, Univ. of Rome, Ph.D. student), who participated in the excavation for the full season, Mehmet Sağır (Ankara Univ., Ph.D. student), Cem Erdoğan (Ankara Univ., Ph.D. student), Pinar Gözlük (Ankara Univ., Master student), students Burcu Burhan (Istanbul

Univ.), Erkan Taşpınar (İstanbul Univ.) and Yasemin Babacan (Ankara Univ.) who participated for varying lengths of time. After the excavation season, Kemal Sertok, Filomena Squadrone (metal objects) and Atila Engin (ceramics) continued their studies in the Gaziantep Museum. Human bones were analysed by a team under the direction of Prof. Erksin Güleç (Ankara Univ.) and the animal bones by Dr. Gil Stein (Northwestern Univ., USA).

The logistic and financial support were kindly provided by Birecik A.S. and Gama – Philip Holzmann – Strabag partnership and has been immensely important to the feasibility of the project. Without this assistance it would have been impossible to conduct an excavation of such duration. We thank them for all their help and support.

Geographical Location and Description of the Cemetery Area

The cemetery is situated south of the Taurus Mountains, in the Euphrates Valley, 350-500 m above sea-level and 800 m to the southwest of the Birecik Dam, the fourth dam built by the Republic of Turkey along the Euphrates. The dam is 45 km east of Gaziantep and 10 km west of Birecik, which is the only crossing point on the Euphrates in the whole region. Birecik Dam Cemetery is located less than 10 km to the West of the Hacınebi Tepesi, where some ten similar burials were found in 1996, and 25 km to the north is Carchemish. The cemetery area is located between the Atatürk (Karabala) and the Tisrin Dam's areas. With the completion of the Atatürk Dam, many mounds, such as Samsat, Lidar, Kurban and Hassek Höyük, were submerged after rescue excavations in the 1980s; but work still continues in the area of Tisrin at sites such as Til-Barsip, Jerablus Tahtani and Tell Kara Kuzak (Fig. 1).

The Birecik Dam Cemetery is located at the southwest of the Euphrates, here flowing towards the east, about 30 m from the river and 10-15 m above its bed. The Nizip limestone plateau, 400-500 m high, was cut by seasonal streams, whose water caused the cemetery to be covered with a 1.5 - 2 m thick pluvial fill. The distinct difference between this pluvial fill and the reddish pure clay bed in which the burials lie reflects the climatic and morphological changes that have apparently taken place after the use of the cemetery.

The burials seem to be more concentrated in the area where the most intense pre-excavation destruction occurred. This implies that the total number of the burials must have significantly exceeded the number of the excavated burials. The burials, which gradually spread away from the probable nucleus of the cemetery, are assembled in small groups at some distance from each other (Fig. 2). The fact that, with some exceptions, most of the burials do not display any stratification and extend without causing damage to one another suggests that the cemetery was used intensively for a rather short period of time (Fig. 3).

Other important structures in the excavation are shallow depressions (1-7 m in diameter) and pits (1-2 m in diameter and 1-2 m in depth) which are filled with stones, sherds, pieces of half-baked brick, braziers, flint tools, and animal bones in dense ash. These depressions and pits appear frequently among the burials. One of the pits was placed just on the west side of burial M237 and was surrounded with a dry-stone wall. The mate-

rial coming from the pits have revealed abundant information about ceremonial customs or burial rituals such as funerary banquets.

The settlement to which the cemetery must have belonged, however, remains unknown. No indications have been provided from the intensive survey conducted in the neighbourhood. So two hypotheses could be proposed:

- 1) The settlement might have been destroyed by the changing flow of the Euphrates; or
- 2) More than one EBA community in the region might have used the same cemetery.

Tombs

Cist Graves

These make up the majority of the burials in the cemetery. They are constructed by digging a rectangular pit in the ground, consistently with a northwest-southeast orientation¹, and lining the walls with large limestone slabs. Although there are differences in dimensions and details, fundamentally they appear to have been built on the basis of the same pattern. North, south and west walls were lined with single horizontal slabs. Two or three slabs, or occasionally a single large slab, were placed above them width-wise to close off the grave. In order to prevent earth from falling into the burial, cracks in between the slabs were filled with small stones. The east side was closed lastly, with vertically placed slabs that generally exceeded the height of the cover slab and that leaned against it at a slight angle. Because the dimensions of the slabs along the sides did not always match perfectly one another, they were sometimes supplemented horizontally or vertically with smaller stone blocks (Fig. 6: A, B). Occasionally the west end was left uncovered by a stone slab. In most cases the bottom of the grave pit was left as dug, but there were several examples which were partially paved with thin and large stones. There are only few examples of tombs, which have dry stone walls along longer sides.

The dimensions of the burials vary from 110 x 60 - x 40 cm to 220 x 160 - x 100 cm on the inner sides. It has been noted that burials of different dimensions are grouped homogeneously. The cist graves never allow easy access, nor do they have additions such as an anti-room or dromos. In many cases, there were broken and fragmentary vessels (except for a few complete vessels) piled on the east side of the tombs, and rarely reaching over the eastern cover slab.

Jar Burials

Large cooking or storage vessels were used for burial purposes in only 13 tombs. They are not grouped together, nor placed at different levels, but instead, they seem to be scattered randomly among the cist graves. In some cases jar burials are found right against cist tombs (M66a, b; M300, 301).

¹ The orientation of the burials, which was established magnetically, must correspond to the sunset and the sunrise. In order to prevent any descriptive confusion, the four main compass points are used from here on, as NW=W, SE=E, SW=S, NE=N.

The jars with round bases, large squat bodies, wide but short necks and out-turned rims probably were used mainly for children, and their mouths were covered with either a wide bowl, a fruit stand or a flat stone. It is notable that one of these is decorated with a reserved-slip (M300). These jars were lined and covered with flat stones just like the cist tombs (Fig. 6: D). For this reason, apart from differences in dimensions, it is difficult to distinguish the different natures of the burial from the outside. In fact, in two cases, large pithos burials reached the same size as a cist burial (Fig. 6: C). It might be more appropriate to interpret these jars as serving to contain the body in the cist graves. Traces of a wooden chest have been found around the deceased, in a cist burial (M282) indicating that besides pithoi, several materials were used for the same goal (Fig. 5: A, B).

Burial Context

At the beginning of the 1997 season, the intense disorder of the human remains had greatly troubled the excavators. This situation seems very similar to that described by Woolley for the graves which were excavated in Carchemish (Woolley 1952, pp, 218). While in some of the Birecik Dam burials no bones were found, in others there were piles of bones, clustered generally at the west edge, that seem to belong to more than one individual. Only three complete skeletons were uncovered in this first season. As the number of the excavated burials increased, it became clear that the damage to the bones was caused by the dissolving of salts within the earth after spring showers and re-crystallizing with summer drought, as well as by the plant roots, micro organisms, and animals such as worms and rodents. The number of graves containing bones increased after the excavations of 1998, and it became easier to interpret them, so now it is clear that many of these graves possessed multiple burials. The analysis of the 1997 bones has shown that there was more than one individual buried in 11 out of 37 investigated burials (Tab. 1)². In the tombs where skeletons were found it has been detected that the deceased were placed with the head closer to the east side of the cists in a flexed position, on either their right or left side.

Bronze, beads and especially pottery form the majority of the grave goods. While in the poorer burials only one jar and a bowl were found, in some richer burials even more than 150 pots were discovered. These seem to have been arranged generally in two or three horizontal and vertical rows on the north side, and piled at the northwest corner of the graves. In some cases, similar patterns were noted on both the northern and southern sides, but on the east and west sides with fewer rows. The empty space surrounded by post in the burials where no bones were found possibly indicates the location of the deceased (Fig. 4).

Bronze spearheads were generally found parallel to the north and south sides of the graves. The other bronze objects are mostly bronze pins and these seem to have been placed inside the tombs in various positions for different reasons, as an ornament, as an instrument, as a hoard, etc.

² We thank Prof. Güleç and his team for analysing the bones and giving us their conclusions in a very short period of time.

Beads are mainly of frit and talcstone, and mostly were found near the head and the body of the deceased. This indicates that the deceased most probably were buried wearing necklaces or similar ornaments. A pin frequently found nearby these bead assemblages suggests that some pins were used together with strings of beads. Baked clay human and animal figurines, totalling no more than ten examples in all the cemeteries; one flint blade, one limestone and one cornelian cylinder seal constitute unusual finds among the grave goods.

In two of the jar burials infant bones were found, but these were very fragmentary. Objects that should have connected to the body of the deceased, such as pins and beads, were discovered inside the jars, while the pottery was found outside, yet still within the cists where the jars were placed (Fig. 6: C).

Pottery

During two seasons of excavation more than five thousand vases were unearthed, so it is now possible to draw an outline of the general and preliminary picture of the particular ceramics wares and their types. According to the find spots, the majority of the pots come from burial contexts. Besides these, the piles of pottery located in front of the tombs form a second group. Those used as the jar burials make up the third group, and the sherds found in the ashy pits and shallow depressions constitute the fourth group. The last group is important because it includes cooking ware that is uncommon among the grave goods and, furthermore, provides potential information about the daily use of these domestic vessels. Here we will focus on the principal ware and types of ceramics that come from inside the burial context.

Ware Groups

Plain Simple Wares are the more common ceramic ware type in the ceramic assemblage of the cemetery. The paste ranges from pale brown to red. Buff and greenish paste are rare. Some examples are self-slipped, however, the thick lime incrustation that covers most of these vessels makes it difficult to distinguish their nature. The feet of some fruit stands and the lower part of the jars were trimmed with a blade-like instrument. Their forms consist mainly of fruit stands, as well as various jar, bowl and low-pedestal vessels.

Late Reserved-Slip Wares constitute a distinctive group of the pottery assemblage. Their forms are similar to the Plain Simple Wares but are distinguished by the reserved slip surface decoration. Reserved patterns with diagonal and vertical bands, which in some cases are crossed by horizontal lines, are in a register on the upper part of the body (Fig. 7: A-H). Mazzoni correctly determined their origin and distribution areas (Mazzoni 1980). This ware type is well-known in the Amuq Plain and in the middle and upper Euphrates areas; sites with well-dated stratigraphy: Amuq G and H (Braidwood and Braidwood, pp. 275, 276, 354, 355; Fig. 218, 219, 273), Carchemish EBA Cemetery (Woolley and Barnett 1952, Pl. 58c: 1-2; Pl. 59a: 10), Hacinebi EBA I tombs (Stein et al. 1997, pp. 5, 23; fig. 20 C, D), Hassek *Hügelplateau levels* 3-4 and west cemetery (Hoh 1984, fig. 10: 13-15; Hoh

1981, fig. 9: 1,2; fig. 10: 2,3,6; fig. 16: 4,6; fig. 19: 5,6), Kurban V (Algaze 1990, pl. 49: L, M, O, P; pl 50: B) and Arslantepe VI B (Frangipane and Palmieri 1988, 542, fig. 10: 10; Palmieri 1981, fig. 8: 10, 11).

The third group consists of some fifteen painted cups. Apart from a fruit stand, which is decorated with red vertical and diagonal lines below the rim (Fig. 8: I), all the other painted cups are four-lugged footed jars with a high neck bi-conical body and a low flaring pedestal base (fig. 7: J, K) that show a strong similarity to those from the Nineveh V assemblage (Rova 1988, pl. XXII; 2-9). The plain simple examples of these jars are abundant in number (fig. 7 L). The pottery from the Birecik Dam Cemetery forms a very important group since very few sites outside the cultural domain of Nineveh V have produced such distinct pottery types, and those types found at sites other than Nineveh do not exceed a few painted examples (Behm-Blanke 1988). A fruit stand decorated with red diagonal lines below the rim has close parallels from the Carchemish EBA Cemetery (Woolley 1952, fig. 57b: 5; 59a: 11, 15), a single example from the Early EBA levels in the sondage trench 40-34 at Tritis (Algaze 1995, p. 111, fig. 10) and another one from Arslantepe VI B (Palmieri 1981, fig. 8: 3).

The fourth group contains dark brownish red and red slipped vases, which were mainly used for hemispherical pedestal bowls (fig. 8: I) and fruit stands. As with the Plain Simple Wares, the lime incrustation makes it equally difficult to distinguish between them.

Finally, we may consider the incised decorated vessels as another ware group. This consists of simple chevron, zigzag, etc. band decorations on the upper shoulder, and was mostly used together with reserved slip decoration. The same pattern can be seen at Hassek Höyük EBA I (Hoh 1981, fig. 6-8), Arslantepe VIA (Palmieri 1981, fig. 2: 5), and Yarım Höyük's (Rothmann 1998, fig. 5) ceramic assemblage.

All of the ceramics are wheel-made, and most have been turned on a slow wheel. No examples of black-red burnished, metallic, Keban and Karababa painted and horizontal reserve-slip wares have been found.

Basic Shapes

Fruit stands are the most typical and dominant vessel shape in the Birecik Dam Cemetery. The characteristic pattern is a shallow bowl with a sharply raised edge on a high cylindrical foot with a wide flaring base. Their size range from Miniature up to about 50 cm in height and the profiles show some variation as carinated or vertical edges and banded, plain or beaded rims (fig. 7: I; fig. 8: A-E). On the upper part of the feet there are mostly horizontal incised lines, and on the feet of the bigger fruit stands there is a frequent use of triangular, rectangular, hourglass shaped openwork holes for decorative purpose. These vases, called "champagne glass pots" by Woolley, have the closest and greatest number of parallels to Carchemish (Woolley 1952, pl.: 56d; pl. 57: a2, b4-5; pl. 58a: 2, 4; pl. 59a: 9, 11, 15, 17; b1-5; c2) and Hacinebi (Stein et al. 1997, fig. 9, 20F) EBA cemetery assemblages. At the newly reached EBA levels in the 1998 season of Horum Höyük, which is located a few kilometres to the north of the Birecik Dam Cemetery, large numbers of

sherds of fruit stands, together with late reserve-slip ware, have been discovered³. At Hassek (Hoh 1980, fig. 13: 5, 7; 14: 1, 2), Kurban V (Algaze 1990, pl. 51A, C, D, L, M) and Arslantepe VIB (Frangipane and Palmieri 1988, fig. 19: 1-7) the number of similar vases is significantly lower. The contexts of EBA I vessels from the find spots in the region south of Carchemish, along the Middle Euphrates indicates the same gradual decrease in number. Besides this typical pattern, fruit stands with hemispherical or closed bowls occur as a secondary group (fig. 7: H; fig. 8: F, H, I). In fact lower or higher pedestals were frequently used for different jar, bowl, cup forms, in the Birecik EBA Cemetery ceramic assemblage (fig. 6: A-G, J-L; fig. 8: N, O).

Various jars (fig. 7: E, F; fig. 8: G) and bowls (fig. 8: J-M) are among the other vessel types from the cemetery. There are, however, few examples of the cyma recta profiled bowls that are commonly found in Southeast Anatolian, North Syrian and North Iraq assemblages.

Metals

The second largest group of finds from the Birecik Dam Cemetery are the metal objects (Squadrone, in press) found in the majority of the burials. Of more than four hundred metal finds, pins constitute the largest group, with a very wide variety of types (fig. 9: A-G, K). The closest parallels to those with animal head terminals (fig. 9: A, B) come from Kargamış (Wooley 1952, fig. 60b) and Hacınebi (Stein et al. 1997, fig. 4: F, G) burials. Bow-shaped pins with central perforations (fig. 9: E, F) constitute original types along with parallels from Kargamış (Wooley 1952, fig.) and Kara Hassan (Woolley 1914, pl. XIXc: 1).

The three-part spear heads with leaf-shaped and round-shouldered blades, butt with round or oval section and chisel-ended tang with a square section (fig. 10: A, B) have parallels with the Arslantepe VIA hoard and rich VIB burial (Frangipane and Palmieri 1988, fig. 58-60; Frangipane 1998, fig. 9), Tulin-tepe (Harmankaya 1993, fig. 1-3), Hassek G12 burials (Behm-Blanke 1984, fig. 7, 8), Karahasan (Woolley 1914, fig. XIXc: 2, 5) and Carchemish burials (Woolley 1952, pl. 61b, c).

There are also spearheads with a squared section blade and tang (fig. 10: E, F), flat axes (fig. 10: C, D), daggers and various beads. Lastly, there are cylindrical amulets with loops for hanging, decorated on the body with diagonal grooves. These are known from the Carchemish Cemetery (Wooley 1952, pl. 60b, 61a) and there is also a unique example surmounted with an animal from Hassek (Behm-Blanke 1984, pp. 62, taf. 12:4). Among them there is one that closely resembles the unusual example from Hassek Höyük while others are simpler (fig. 9: H-J). So, it would not be misguided to suggest the Carchemish region as the origin of these amulets.

³ We thank our colleagues Marro and Tibet for giving us the opportunity to examine this material.

Small finds

Great numbers of beads form the most common group of small finds at the cemetery. Articulated cylindrical beads of frit, about 2 mm in diameter and 5-6 mm in length, light blue in colour and very fragile, and blue and maroon talc-stone beads of about 2 mm in diameter and length, form the majority of the types. Also made of talcstone, and arranged to create a composition that reflects an unusual but particular taste in necklaces, are flat black and white beads, perforated with more than one hole for threading. These beads are of various sizes, and triangular, rhombic and rectangular in shape (fig. 11). Other beads, few examples of which have been found, are single bi-conical and filigree beads of bronze. Seashells, perforated to create a hoop shape, are believed to have been used as amulets as well as necklaces.

Baked clay human and animal figurines, no more than six in number, demonstrate a natural and original craftsmanship. An animal figurine with a beaked face and head shaped like a crown, and a human figurine, standing frontally, with a similar beaked face and hair falling down the back of its neck, seem to represent two early examples of the Near Eastern iconography tradition of composite figures.

Finally, a limestone (fig. 12) and a cornelian cylinder seal deserves mentioning. Similar examples, decorated with criss-crossing zigzags in between two chevron bands, have been found among the Jemdet Nasr assemblages (Amiet 1973, pp. 218, fig. 1; Behm-Blanke 1984, pp. 58) and there are examples extending as late as the middle of the EBA.

Conclusion

The Birecik Dam Cemetery, with its burials contexts preserved beneath the thick pluvial deposits, such as the ashy depressions and pits, and the absence of complex stratigraphic problems, provides the opportunity to understand a great deal about EBA Burial customs of North Syria and Southeast Anatolia.

The reserve-slip ware, bi-conical Nineveh V ware, fruit stands, three-part spearheads and other characteristic material discussed above and compared to examples from other sites, belong within the corpus of EBA I-II and perhaps with early EBA finding assemblages. As a result of this comparative analysis, it can be proposed that the Birecik Dam Cemetery has been used for a few centuries from the beginning of the third millennium. More importantly, this collection of findings as a whole provides us with valuable information about cultural evolution, regional and interregional relations, and sequences of the material culture of Southeast Anatolia and North Syria. Moreover, the great variety of finds from the Birecik Dam Cemetery, such as cups decorated with reserved slip, fruit stand, other pedestal bowls, spearheads, pins with animal-head terminals and bow-shaped pins, cylindrical amulets with loops for hanging, etc., display strong similarities to finds from other cemeteries at Kargamış, Karahasan and Hacınebi Tepe that contains burials with the same morphological disposition. These similarities indicate that not only do they belong in the same cultural context, but also that much of the material might have been

produced by the same workshop. This material culture seems to fall in the regions of Birecik, Kargamış Dams in southern Anatolia and Tisrin Dam in Northern Syria and reflects a homogeneous and continuous cultural development under, most probably, amicable conditions. While the influence of this culture has been detected in the north, no distinct evidence of typical northern characteristics, such as black-red burnished pottery, painted Keban and Karababa ware, has been discovered here. In her investigation of the origin of the Upper Euphrates painted pottery, which appears suddenly in East Anatolia, Marro proposes a relationship with the painted ware of Nineveh V (Marro 1997, pp. 109). On the other hand, trying to find out the periphery of Nineveh V, ceramic assemblages in the Upper Euphrates Valley, Behm-Blanke suggested that such wares reached this region through the Habur and north of Urfa Plain (Behm-Blanke 1988, pp. 167; fig. 6). If this proposal is correct, it would also be possible to suggest that the northern expansion of these painted wares from the Nineveh culture took place through this cultural zone, which also contains the largest quantity of painted and plain biconical cups.

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Table 1

Tomb	Infant	Adult	Male	Female	Unknown	Total
M6	1				1 (Adult)	2
M7			1 ?			1
M17	1		1 ?			2
M18	1					1
M32	1					1
M37				1 ?		1
M38					1	1
M44					1	1
M49					1	1
M55			1			1
M57		1				1
M82			1	1		2
M83					1	1
M86		1			1 (Adult)	2
M87					1	1
M88					1	1
M92					1	1
M95					1 (Adult)	1
M96	1		1			2
M102				1 ?		1
M108					1 (Adult)	1
M112					1 (Adult)	1
M127					1	1
M128					1	1
M130			2 ?	1 ?	1 (Adult)	4
M136				1 ?		1
M137					1 (Adult)	1
M143	1		4 (2 ?)	2	2	9
M144				1	1 (Adult)	2
M145	1		1	1	1	4
M146		1	1	1		3
M180			1 ?			1
M188					1 (Adult)	1
M201	1					1
M207				1		1
M208			1			1
M220	1			1	2	4
Total	9	3	18	9	23	62

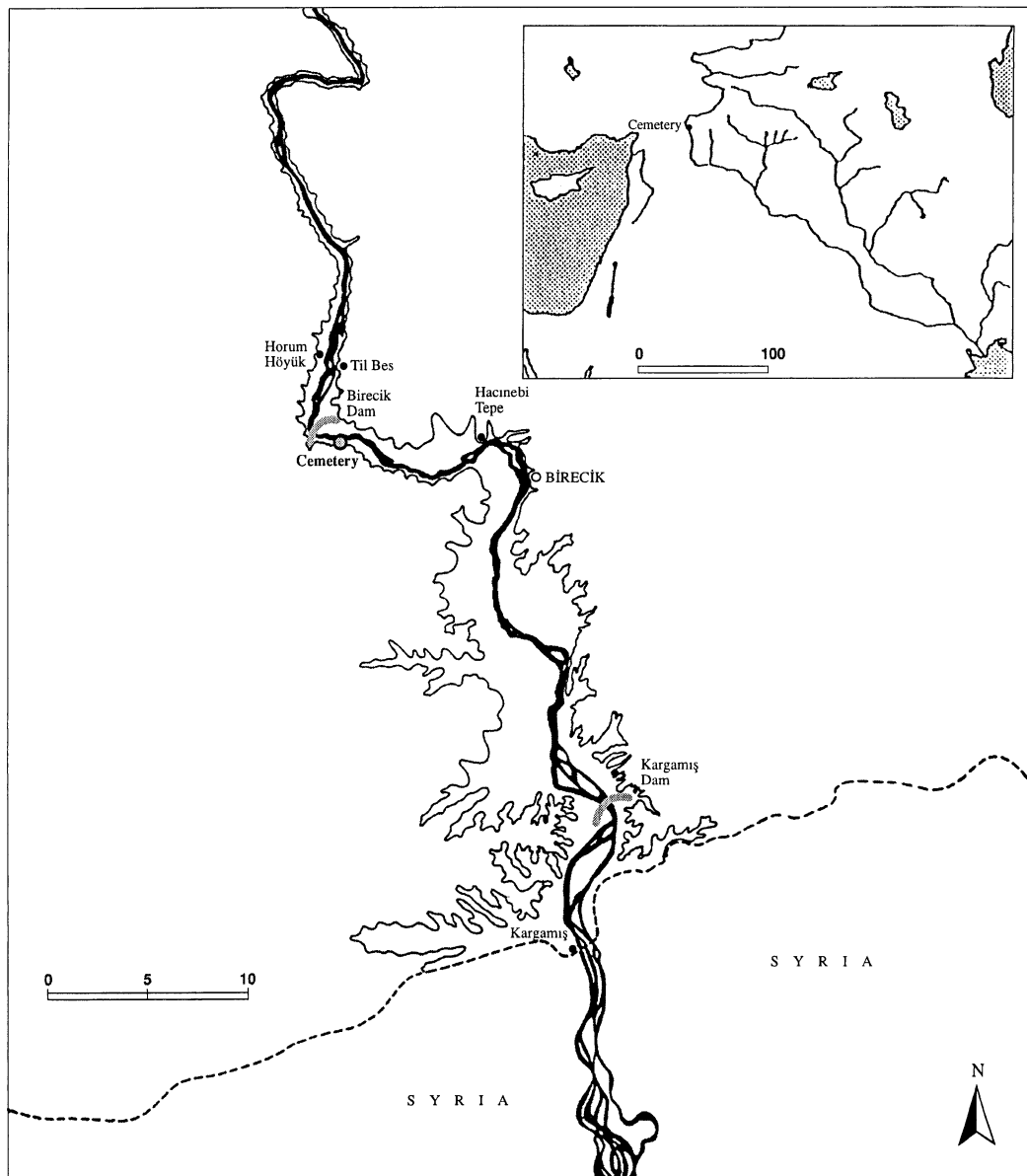


Fig. 1. Location map of the Birecik Dam Cemetery area in the Middle Euphrates.

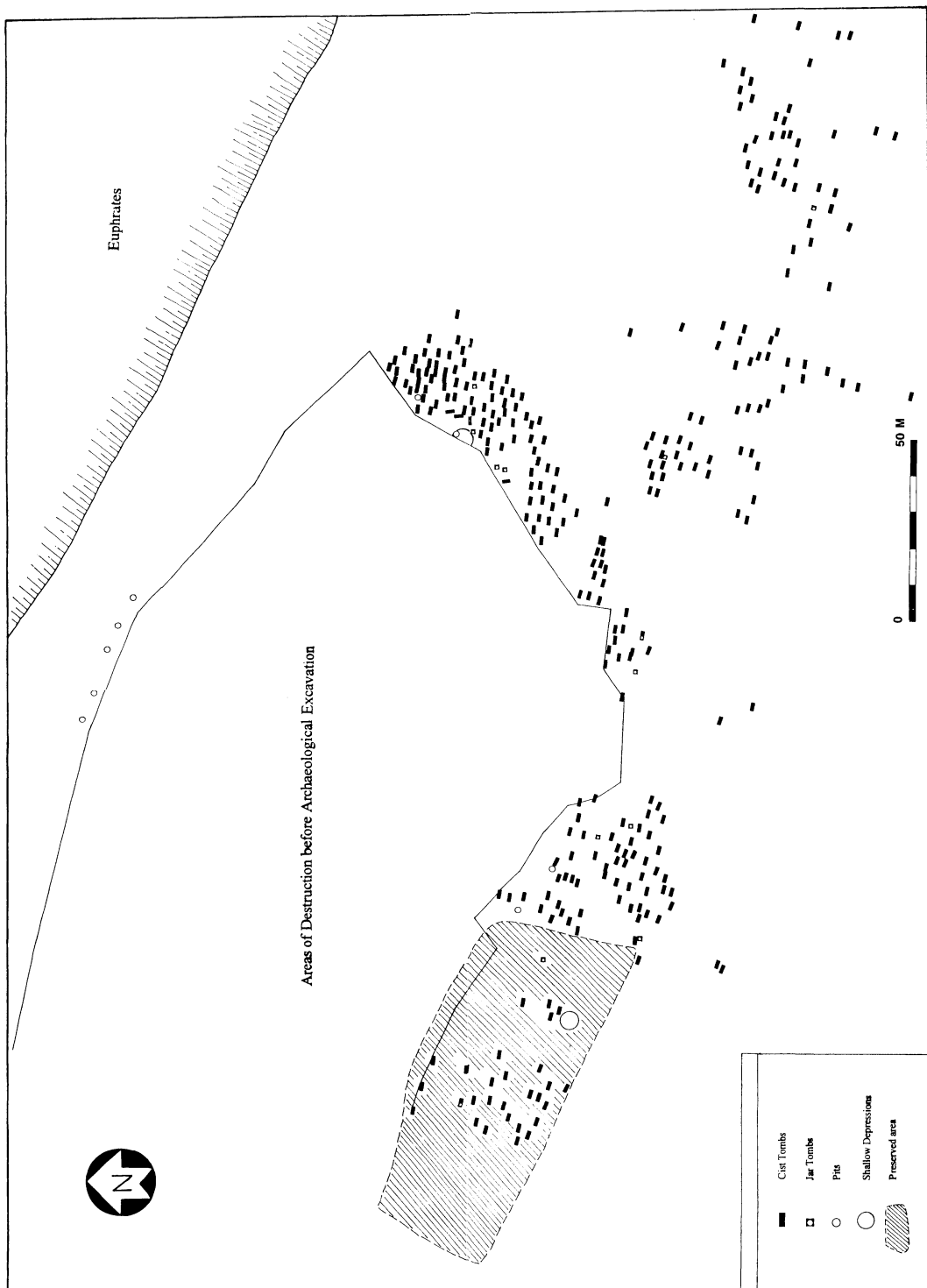


Fig. 2. Schematic map of the cemetery.



Fig. 3. A view of a densely used cemetery area.



Fig. 4. Tomb 308. Note the regular distribution of ceramics and the empty space possibly used for the deceased.



Fig. 5a. Tomb 282. Skeleton in wood (?) chest.



Fig. 5b. Detail of tomb 282.

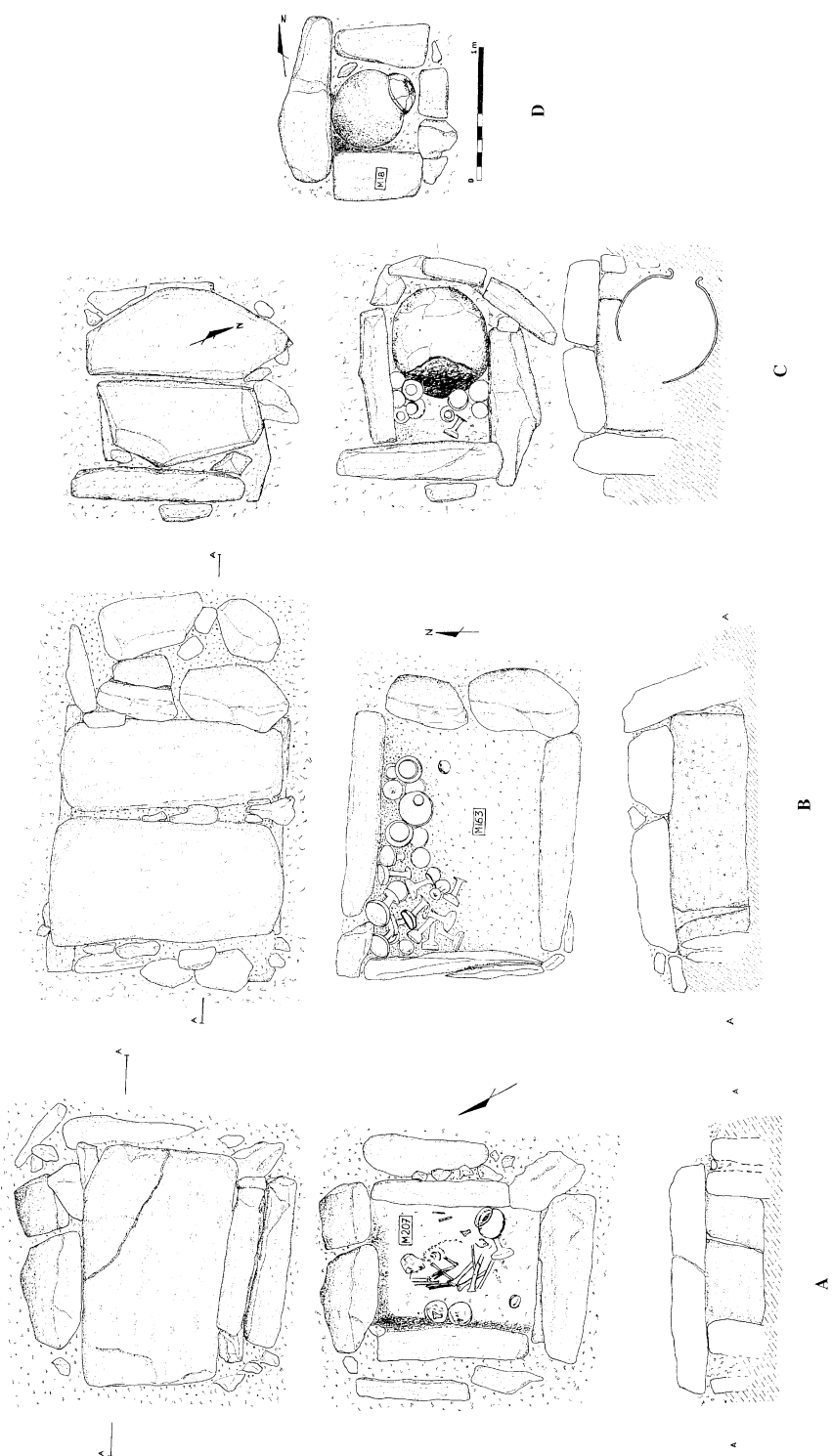


Fig. 6. A, B: cist graves 207 and 163; C, D: pithos burials 162 and 18.



Fig. 7. A-H: Reserved Slip Ware; I-K: Painted Ware; L: Plain Simple Ware

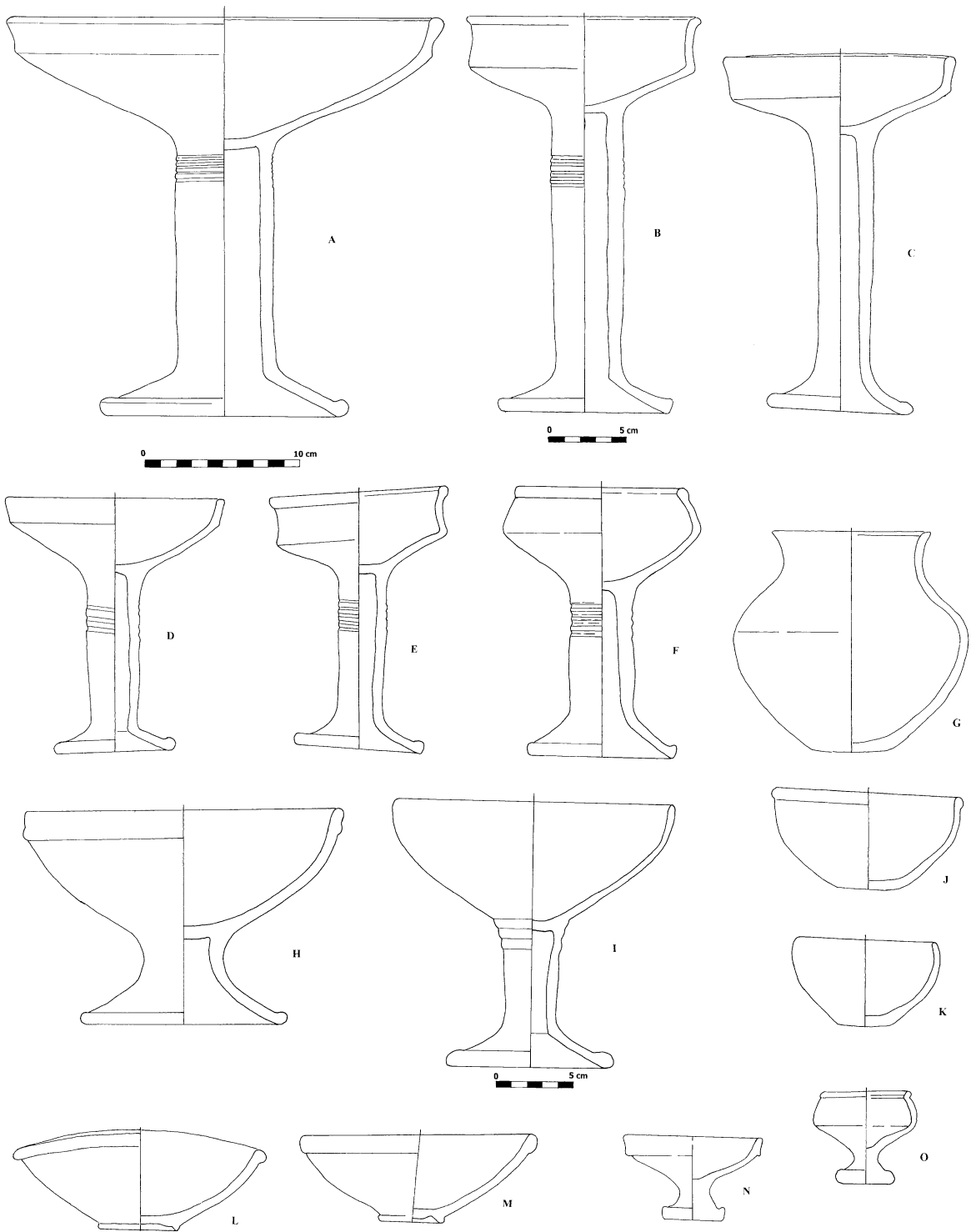


Fig. 8. Selected ceramic shapes.

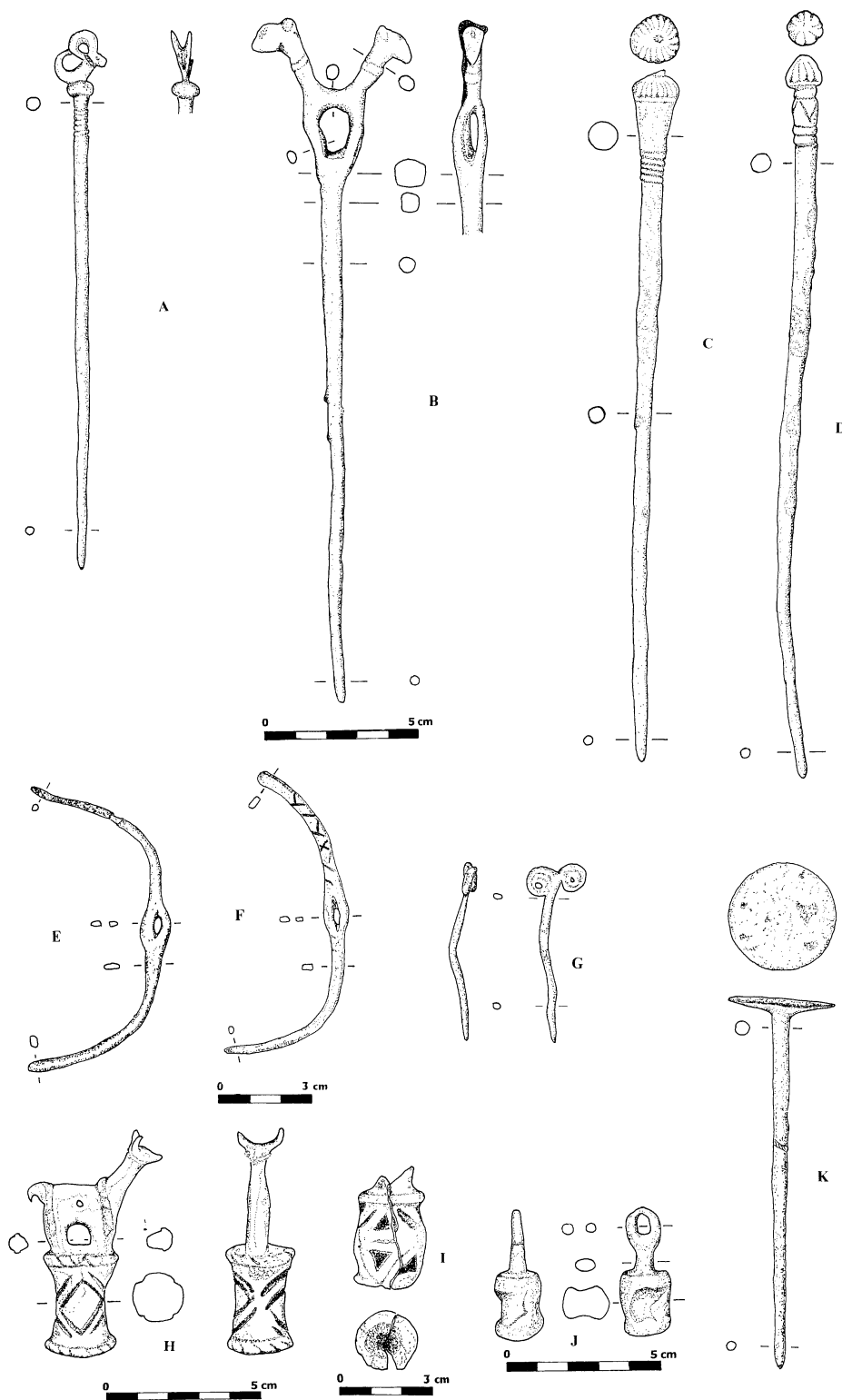


Fig. 9. Metal pins and amulets (?).

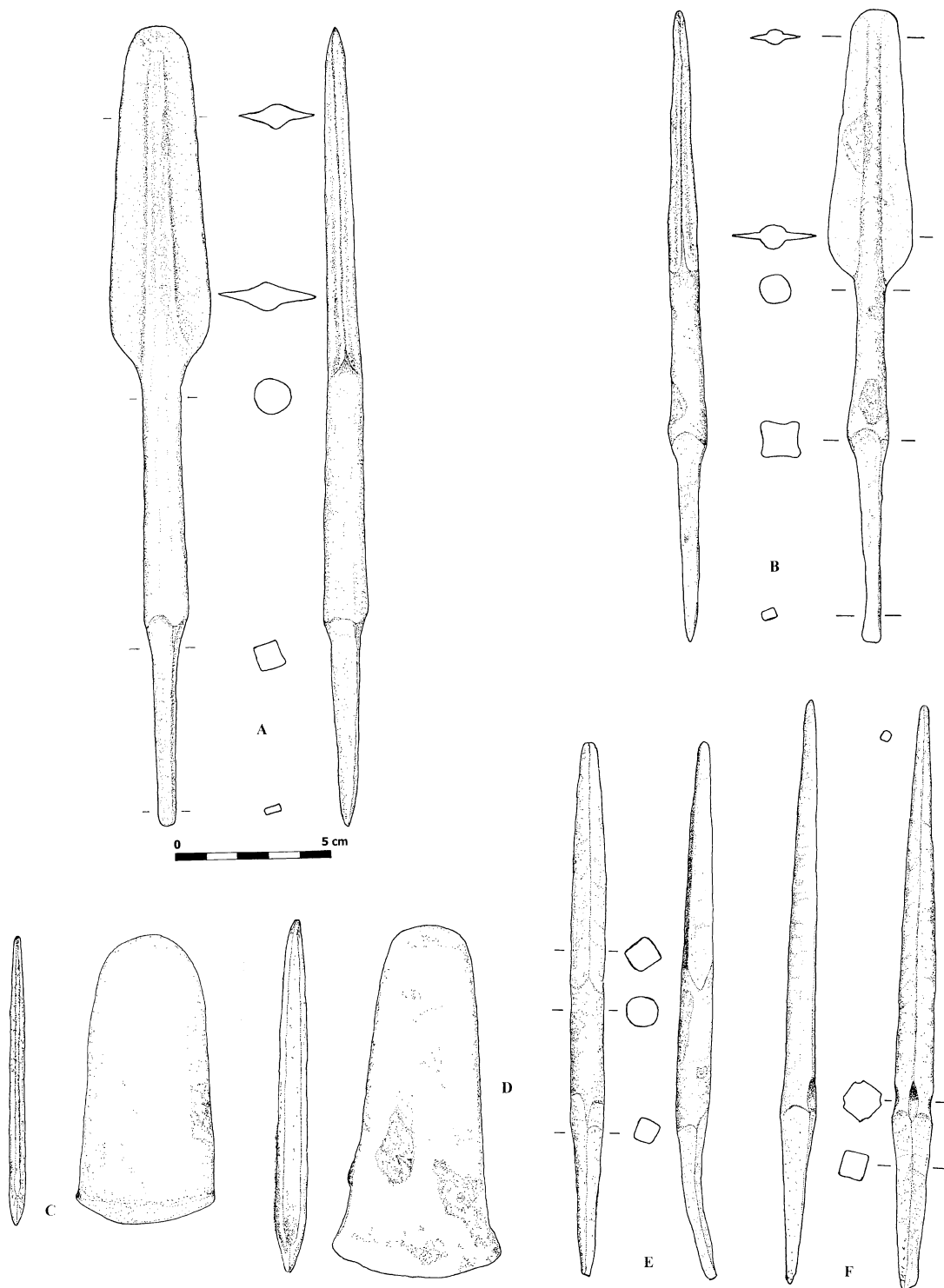


Fig. 10. Metal spear-heads and flat axes.



Fig. 11. Talcstone necklaces.

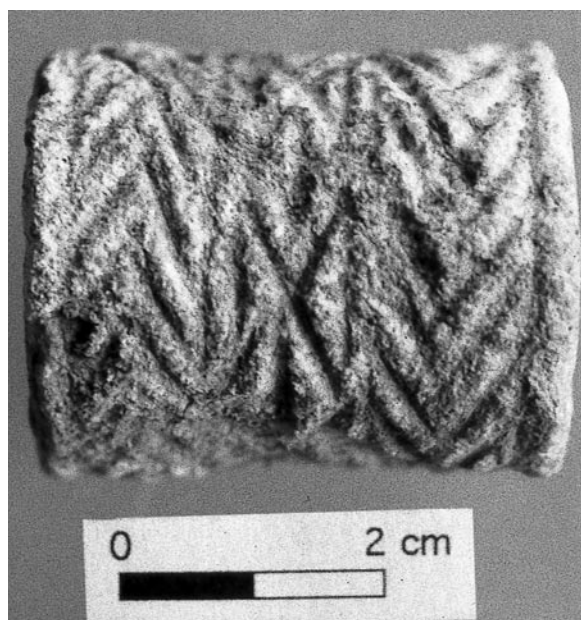


Fig. 12. Limestone cylinder seal.

THE HALAF SETTLEMENT AT KAZANE HÖYÜK

Preliminary Report on the 1996 and 1997 Seasons

Reinhard Bernbeck, Susan Pollock and Cheryl Coursey

INTRODUCTION

The site of Kazane Höyük, located at the head of the Harran plain just southeast of the city of Şanlıurfa in southeastern Turkey was occupied for over 4000 years, from the Late Neolithic period (if not before) to the early second millennium B.C. (Wattenmaker and Mısır 1994: 177-178). The site has been the focus of archaeological work conducted by Dr. Patricia Wattenmaker of the University of Virginia since 1992. In the summer of 1996 the authors, on the invitation of Dr. Wattenmaker, began an investigation of the Halaf occupation at the site.¹ This report discusses the work conducted in two very brief seasons in 1996 and 1997.²

The goals of our research at Kazane are to examine inter- and intra-household variability in production, acquisition, and consumption of raw materials and finished goods and to study patterns of mobility and sedentism in a Halaf community. Unlike most published studies on the Halaf period, we are concerned principally with socioeconomic variability *within* rather than between settlements.

Our immediate objectives in the two brief field seasons in 1996 and 1997 were more modest. They included an assessment of the state of preservation of Halaf remains, especially architectural, floral and faunal materials; the collection of samples for radiocarbon dating and of ceramics for chronological evaluations; and preliminary assessments of activity and spatial variation.

In this report we briefly describe previous work on the Halaf occupation at the site, present stratigraphic summaries for each of the units excavated, and make preliminary

¹ We wish to thank Pati Wattenmaker for her invitation to undertake this work, Adnan Mısır and Eyüp Bucak, directors in 1996 and 1997, respectively, of the Şanlıurfa Museum, and the workmen at Kazane, all of whom helped to make our work possible. We thank Klaus Schmidt and Necmi Yaşar for letting us live in the "Alman evi" in Şanlıurfa. Thanks also to Henry Wright who helped with artifact drawing and excavation, Susan DeLeonardo for assistance with the analysis of the chipped stone, and Gabriela Castro Gessner and Sarah Kielt for their work on the artifact drawings. Our work was funded by grants from the State University of New York at Binghamton, Bryn Mawr College, the American Philosophical Society, and the American Research Institute in Turkey, to all of which we are grateful.

² Fieldwork lasted from August 4-19, 1996 and from July 30 - August 11, 1997.

observations on artifacts recovered. Due to severe time constraints in both seasons, especially in 1997, artifact recording was limited, and as such, the conclusions we can draw must be regarded as tentative.

Previous Work on the Halaf Period at Kazane

The systematic surface collections made at the site in 1992 by Wattenmaker and team revealed that Halaf material was found in a number of locations at the site (Wattenmaker and Misir 1994: 178-179, Fig. 3): on the slopes of the high mound, along the cut made for the irrigation canal that now traverses the site, and near the city wall in the south. The Halaf artifacts found near the wall were thought to derive from the re-use of sediments from elsewhere on the mound in the construction of the third millennium city wall. Even if that concentration of artifacts is discounted as unlikely to be *in situ*, the widely dispersed concentrations of Halaf material elsewhere indicate that the Halaf settlement at Kazane was either very large (15-20 ha) or that it consisted of several smaller occupations that shifted through time. The ubiquity of Halaf material at the site is also attested by the recovery of small numbers of Halaf sherds in nearly all excavation units with later material: east of the high mound, in the southern part of the lower town, and on the western slope of the high mound (Wattenmaker and Wright, pers. comm.).

In 1994 a trench was excavated by Dr. Christopher Edens on a low rise in the southeastern sector of the site. Although the intention was to excavate Early Bronze Age architecture, much of the material turned out to be Halaf in date. Little architecture was found, but numerous pebble-strewn surfaces, probably representing exterior spaces, were identified. Near the base of the excavation unit, a burial of a child was encountered. The trench was excavated to a depth of 1.5 m below the surface. Although the artifacts recovered from this trench have not yet been studied in detail, preliminary examination of the pottery suggests a Middle to Late Halaf date.³

THE LATE NEOLITHIC AT KAZANE

Although most of our 1996-97 excavation units encountered Late Halaf levels (see below), one unit, G18, consisted almost entirely of pre-Halaf levels. For convenience, this pre-Halaf chronological unit is called here "Late Neolithic."

Stratigraphic Summary

Unit G18 was placed on the slopes of the southwestern portion of the lower town, but within the confines of the third millennium city wall (Fig. 1). Here the tell slopes towards an

³ We follow Davidson and Watkins' subdivision of the Halaf period into an early, middle and late Halaf and Halaf-Ubaid Transitional phase (Davidson and Watkins 1981: 7-9).

elongated depression in the west identified by Dr. Arlene M. Rosen (1997: 408-410, Figs. 3 and 6) as the remains of an ancient river channel. On this slope, just south of the modern canal that cuts through the site, surface sherds indicated a Halaf occupation with little or no later overburden. However, the uppermost levels (III to I) turned out to date to the third millennium and contained some Late Halaf sherds which derive from either eroded Halaf levels or washed-in material; below was a sequence of levels which seem to date slightly earlier than the "Transitional Halaf" levels 6-4 at Sabi Abyad.

Unit G18 was begun as a 1 x 5 m trench. When the presence of third millenium levels was recognized, the trench was reduced to its westernmost two meters in order to reach a maximum depth in the time available. In this 1 x 2 m area, we excavated seven levels with a total depth of 3.35 m (Fig. 2). Almost all levels had a similar structure: each was delimited by a sherd layer or pebble surface (in one case in connection with the traces of a fire installation). Above the surface was a massive accumulation of heavy, damp alluvial deposit that was nearly free of artifacts.⁴

The following description of the stratigraphy begins with the bottom layer. The lowermost level (Level VII), c. 1.05 m thick, was excavated out of geomorphological interests on the last day of the excavation. The only in situ structural remains encountered in G18 were identified at the very bottom of this level: stones set in a semi-circle, perhaps the foundations of a wall. The whole appears to be floodplain depositional environment (A.M. Rosen, personal communication).

The next four levels (Levels VI - III) consisted of sherd and pebble surfaces, topped by alluvial sediments containing ash, charcoal flecks, and calcareous nodules. In Level V brickly collapse formed a significant part of the deposit. It may be that a flimsy mudbrick installation or wall once existed in this area.

The uppermost two levels were excavated over the full five meter length of the trench. In the east, level II had a hard clay floor at its base, which was bounded in the west by decayed mudbrick that may once have been a wall running obliquely through the trench. Level II contained a few Late Halaf sherds but most of the material was clearly third millennium in date. Level I was defined as the surface and plow zone.

In the pre-third millenium levels, this area seems to have been outside or at the edge of an ancient village. Only in Levels VII and V were any architectural remains encountered. The highly regular sequence of a dense layer of sherds, often on a pebble surface, followed by a massive accumulation of alluvial sediment, followed again by pebble and sherd surfaces suggests a functional continuity in this area, interrupted by periods of abandonment whose duration is difficult to estimate. Drawing on Rosen's geoarchaeological studies at the site, it can be suggested that the surfaces mark encampments adjacent to an ancient river channel. Fields may have been located near the river, and during times of high workload people may have moved out from a nearby village, probably somewhere on the present site of Kazane, to the fields. Such a practice is documented in many ethnographic contexts, including Northern

⁴ Only 30 % of the alluvial deposits was screened because of the difficulty of getting the sediment through the screen.

Mexico (Graham 1994: 2-3; 89), Afghanistan (Denizot et al. 1977; Grötzbach 1990: 169) and Syria (Wirth 1971: 256-258). In places such as these which were not settled permanently, one cannot expect to find the same cultural assemblage as in contemporary settlements. A lack of substantial architecture is accompanied by a restricted assemblage of ceramic and lithic objects and the almost complete absence of any other tools. This caveat should be kept in mind in the discussion of the dating of the G18 layers.

Ceramics From G18

Ceramics from Levels VII to IV are included in this brief analysis.⁵ Only Level IV contained a significant amount of intrusive later material (34 sherds or 9.7 % of its ceramics). Intrusive sherds of third millennium date could be easily identified since they are wheelmade as opposed to the entirely handmade Late Neolithic vessels. Late Halaf sherds seemed also to be intrusive and have good parallels in the Late Halaf material from D16 and D17. Since the samples from G18 were relatively small, it was possible to count and weigh all sherds by locus as well as to draw all diagnostics. A preliminary analysis allowed the distinction of seven different wares.

Grey-Red Coarse Ware (GRC): Sherds are tempered with coarse chaff, have a dark grey to black core, and are invariably fired at low temperatures. Vessel walls are thick, with bases as much as 3.5 cm or more in thickness. Some sherds have a reddish inner or outer surface which tends to be pitted from burnt vegetal material. Surfaces were generally smoothed in a careless way, but some sherds have a burnished outer surface.

Coarse Mineral Ware (CM): A small quantity of thick sherds, probably from vessels whose shapes were similar to those of the GRC ware, was found in Levels VII, V and IV. These sherds contain dense sand temper, in some cases with the addition of large pieces of crushed calcite. This ware and Grey-Red Coarse Ware form a continuum, with various combinations of chaff and mineral temper occurring in the ceramic material.

Greenish-Buff Wares are fired at high temperatures and tempered with fine to coarse sand. Vessel walls vary between 0.4 and 1.0 cm thickness. Three sub-types can be identified, two of which are painted. The paint was probably applied only after firing.

a) Relatively well represented is a *Fugitive Red Painted (FRP)* type with dark red to violet paint (Fig. 3b, e-g). The paint washes off very easily, and in many cases, patterns are hard to discern. Associated shapes seem to be mostly high-necked jars with exterior designs and garlands on the inside rim.

b) *Fugitive Black Painted Ware (FBP)* is similar in almost all aspects to FRP except for the difference in the paint color (Fig. 4 g,i). The black paint used in this ware is less easily rubbed off the surface.

⁵ In the discussion of the relationship between contexts and sherd densities, data from Level III are included.

c) *Fine Unpainted Ware* (FUP) sherds come from vessels of either FRP or FBP wares: enough refitting was done to make sure that these sherds are fragments from the lower parts of red or black-painted vessels.

A residual category contains wares with only minimal representation, but some of which contain crucial information for relative dating and potential evidence for external contacts. The occurrence of such sherds was restricted to levels V and IV.

a) One pattern-burnished grey sherd was found in Level V (Fig. 3d). The pattern consisted of a crosshatch.

b) An unusual sherd with some technological resemblances to later Halaf sherds was found in level V (Fig. 3a). It has an orange surface and fine vegetal temper, and the paint is not of the usual fugitive kind. However, the painted pattern does not resemble any motifs from the material excavated in the later Halaf levels.

c) A grey sherd with an incised design on the exterior was found in level IV (Fig. 3c). The outside surface was highly burnished, whereas the inside is rough and pitted with chaff impressions.

d) Sherds with red slip were found in very low numbers. Apart from one coarse example, they have fine vegetal temper and seem to have belonged to small vessels.

The dominant wares can be combined into two major groups, the Coarse wares (GRC and CM) and the Fine wares (FRP/FBP/FUP). Coarse wares (Fig. 4a-f, h) can probably be equated with the Tell Halaf *altmonochrome Ware* (Schmidt 1943: 35-36), the Balikh II "Standard Ware" from Sabi Abyad (Le Mièrre and Nieuwenhuyse 1996: 129-133) and, at least in part, the Dark Faced Burnished Ware from the Amuq A and B phases (Braidwood and Braidwood 1960: 49-52). Fragmentation patterns of the two groups of wares are quite distinct. Average sherd weight by locus for the coarse and thicker-walled pots of the Coarse wares is much less variable than for the different Fine wares (Fig. 5a). The softness of the thick wares makes them fragment consistently into relatively small pieces, whereas the sturdier vessels of the Fine wares break into large as well as small sherds. The low median for the Unpainted Fine ware is probably due to the fact that most of these sherds are small fragments from the lower parts of Fine Painted vessels. Another contributing factor to this pattern may be that refitting was done before weighing. Refitting was particularly easy for the painted sherds, for which painted motifs provided many clues. On the other hand, joins for the large and often abraded coarse ware sherds could only rarely be found.

Measures such as sherd weight per locus must be put in relation to actual vessel size in order to account for real breakage rates. We take here the relationship between rim diameter and wall thickness one cm below the rim as an indication of vessel size. A scattergram (Fig. 5b) makes clear that sherds of both Coarse wares (GRC and CM) belonged to larger vessels than sherds of the finer Painted and Unpainted wares (FRP, FRP, FUP).

Ceramic densities, calculated as sherds per cubic meter, were crucial in establishing the alternating stratigraphic sequence of surfaces and alluvial layers in G18. A comparison of surface and fill contexts reveals a high variability in sherd densities for surfaces that contrasts with the more consistent figures obtained for fill densities (Table 1, Fig. 6). Surfaces are

remains of human activities, involving for example the intentional use of vessels, so that variability in sherd densities is to be expected. The fill between surfaces is the result of recurring natural processes such as erosion and sedimentation which produce a much less variable pattern of deposition of cultural remains. Overall, surfaces have sherd densities that are more than six times higher than those of fill layers (see Table 1). Further analyses of vessel types may enable us to determine the kinds of activities carried out on these surfaces.

Changes in the percentages of wares throughout the stratigraphic sequence do not follow any consistent development when examined for each ware separately. This is most probably due to small sample sizes. However, the analysis of *grouped* ceramic wares (GRC/CM, FRP/ FBP/FUP) gives some indications of chronological trends in the sequence (Table 2). Fine ware sherds increase rapidly from Level VII to V, whereas the coarse tempered wares decrease. The percentages for Level IV may be skewed due to the amount of intrusive later ceramics. It is improbable that this change over time is due solely to functional changes in the use of the area, since between each major level there must have been a considerable time lapse.

Chipped Stone from the Late Neolithic Layers

So far, chipped stone collections from G18 have been only quickly inspected for particular kinds of raw materials, tools, and the approximate number of pieces. The chipped stone industry in Levels VI to IV looks technologically unsophisticated. Densities of material are generally very low, and the quantity of formal tools is minimal. Apart from used flakes, only one burin and two scrapers were identified. The few blades in the assemblage are very irregular. The preferred raw material is a light brown mottled chert, rather than the darker material that predominates in the later Halaf levels (see below). The percentage of obsidian is very low. Notable, however, is an obsidian transverse arrowhead (Fig. 15i) which has good parallels at Sabi Abyad (Copeland 1996: 296-297, Fig. 4.3, No.6, Fig. 4.17, No.14) and Shams ed-Din (Miller et al. 1982).

Blades form a larger part of the industry in Level VII, and two of the four cores from that level are blade cores. The number of retouched pieces is also higher than in later levels.

No tools with silica sheen occur in any of the levels. If the interpretation of the sherd layers as occupations in the fields is correct, this would mean that grain, reeds or other riparian grasses were harvested without the use of stone-bladed sickles. Often discussed is the possibility of uprooting them by hand. Another method, which is documented in the ethnographic section of the Karaman Museum (southern Turkey), is to use gloves with claws made out of horn at the finger tips. In the former case, archaeologically preserved remains cannot be expected to survive, and in the latter case only in exceptional circumstances.

Densities of total chipped stone in G18 loci range from 0 to 333 pieces per m³, with a mean of 102 pieces per m³. This is much lower than in the Halaf levels of D16 and D17, and may be explained with reference to the function of the G18 area. Lithics may have been used more for herding-related than for agricultural activities, a hypothesis that finds some support in the D16 and D17 assemblages.

Small Finds from Late Neolithic Contexts

A fragment of a sealing without seal impression was found in Level VII. It was probably a bulla, put around a string that may have originally closed a vessel. Near the bottom of the trench, a highly polished bone awl was found.

The number and size of grinding stone fragments from G18 is much larger than from the two trenches with Late Halaf material. In Levels VII to IV, the overall density of grinding stones (by weight) is 1.564 kg/m³, whereas in D17, the maximal density⁶ is 0.113 kg/ m³. In D16 no grinding stone fragments were found. The differences may either be a function of chronology, or it may be that the processing of grain in Late Neolithic and Late Halaf times was done mainly outside the village.

Chronology

No samples from G18 have been submitted for radiocarbon dating. Therefore, the following discussion has to rely on traditional methods of dating by artifact parallels. Comparative material for Levels VII to IV is not easy to find. The best parallels are from the Balikh region which is geomorphologically the southern part of the drainage in which Kazane is situated. The Balikh IIC phase, dated c. 6000 B.C. and represented at Sabi Abyad levels 10 - 7, is notable for the almost total absence of painted sherds.⁷ The few decorated sherds from that phase (Le Mièrè and Nieuwenhuyse 1996) do not find good parallels at Kazane. Red burnished sherds occur in much larger numbers in Sabi Abyad levels 10-7 than in the G18 assemblage. Parallels to the pattern burnished sherd from Level V at Kazane are well attested in Amuq phase B (Braidwood and Braidwood 1960: 77, Fig. 51). Amuq B and Tell Sabi Abyad 10-7 are thought to be approximately contemporary (Akkermans 1996: IX).

The stratigraphically later Sabi Abyad levels 6-4 have yielded radiocarbon determinations that are hardly later than level 8 (Akkermans 1996: X), but the ceramic material differs greatly from the earlier levels. There must have been an abrupt change in the sequence at Sabi Abyad, and in levels 6-5 of the “burnt village” one finds the most parallels to the Kazane G18 material. However, the percentage of painted wares is much higher at Sabi Abyad than in Kazane G18 (Level 6: 89.6 %; level 4: 85.6 %; Le Mièrè and Nieuwenhuyse 1996: 162, Table 3.32). Red paint decreases over time in the Sabi Abyad “transitional” levels, whereas it increases in the Kazane sequence. Unless one wants to explain the differences entirely as functional, these observations point to a date of Kazane G18 Levels VII to IV as slightly earlier than Sabi Abyad 6-4 or perhaps contemporary to level 6.

⁶ Not all volumes are included in the calculation, but all the grinding stone fragments are, making this a maximum density.

⁷ During the summer of 1998, we carried out a systematic surface survey of a small Halaf site on the Euphrates south of Birecik. The site, known from Algaze et al.'s work as Site 45 (Algaze et al. 1994), seems to have a contemporaneous occupation.

A few other elements support this conclusion. An example of the easily identifiable Sabi Abyad Orange Fine Ware is present in G18 Level V. This kind of pottery is almost entirely restricted to level 6 at Sabi Abyad (Le Mière and Nieuwenhuyse 1996: 160, Table 3.30). The painted pattern on the Kazane sherd can be compared with a sherd from Level 5/4 at Sabi Abyad (Le Mière and Nieuwenhuyse 1996, Fig. 3.35, No. 15). Another indication for such a date is provided by the pattern burnished sherd from Kazane G18 Level V. The motif, a cross-hatch (Fig. 3d), is said to occur first at Sabi Abyad in levels 6 to 4 (Le Mière and Nieuwenhuyse 1996: 136). Another very general parallel is provided by the sealing with a string impression from G18 Level VII. Numerous sealings, with and without impressions, were found in the "burnt village" (level 6) at Sabi Abyad (Akkermans and Duistermaat 1997).

Overall, the low quantities of painted sherds as well as the more specific parallels point towards a date for G18 Levels VII - IV as either contemporary with Sabi Abyad 6 or slightly earlier, that is, around the beginning of the 6th millennium cal. B.C.

THE LATE HALAF

Stratigraphic Summaries

In 1996 and 1997, four test trenches, units D16, D17, D20 and D21 were excavated in the southeast portion of the site. All of these units were located near to each other and date to the Late Halaf. Units D16 and D17, each 3.0 X 1.5 m, were placed approximately 40 meters apart, just to the east of the road that crosses the mound from north to south (Fig. 1). D20, excavated in 1997, was located not far from D16. The area around these three units had been recently leveled and plowed in preparation for irrigating crops, and an estimated 0.5 - 1.0 meter of deposit had thereby been removed. A walkover of the area turned up much Halaf pottery and little later material. Our impression that the bulldozing and leveling had effectively eliminated the post-Halaf occupation in this area turned out to be largely correct: intact Halaf deposits were present just below the plow zone in all three trenches.

Unit D21 was excavated with the aim of testing the unbulldozed area to the west of the road. It was located 40 m west-southwest of D20 (Fig. 1). The elevation in this area is only slightly higher in the vicinity of the other trenches prior to bulldozing. Halaf sherds on the surface indicated that the occupational strata below the surface might be expected to date primarily to the Halaf period with little later occupation.

D16

Unit D16 was excavated to a depth of 0.95 m below the current surface, after which it was reduced in size to 1.4 X 1.0 m (Fig. 7a). In the smaller unit a depth of 2.1 m below the surface was reached. Four occupation levels were distinguished.

The oldest excavated level, Level IV, consisted of a midden containing multiple sloping lenses of burnt trash and cleaner, silty debris. Lenses often differed only in terms of the concentration of organic-rich silts or degree of compactness. The slope of the deposits

indicates that the trash was dumped from the south.

The midden was capped by a substantial pebble surface above which were trash deposits, including organic-rich debris as well as bright orange clay (Level III). Mixed in with the burnt deposits were pieces of dense black slag. Another pebble surface formed the lower limit of Level II. Over the surface lay dense silty debris mixed with pebbles and charcoal flecks.

The uppermost level, Level I, revealed the edge of a pisé wall that was preserved to a height of 50 cm. The wall was constructed of courses of pisé separated by layers of "mortar" containing quantities of pebbles. An ephemeral pebble surface connected the wall to a concentration of smooth, fist-sized rocks in the southwestern corner of the trench. Although the rocks were piled up in a way that gave the appearance of having been placed in a pit, no outline of a cut was discernible. No other material was associated with the rocks. A second surface of burnt packed mud, 3-5 cm thick, was located in the southeastern portion of the trench. This surface was quite clean. At the edges it rose slightly as if it was abutting walls, but none were detected. Nonetheless, the shape of the remaining surface suggests that it was the interior corner of a room, maybe of a hut with light-weight walls such as wattle-and-daub.

At the completion of excavation, an attempt was made to ascertain the depth of occupation deposits in this area using an auger.⁸ Cores were removed to a depth of 1.5 m below the base of excavation without reaching sterile soil, indicating a total deposit of cultural material of more than 3.5 m.

D17

Unit D17 was excavated to a depth of 1.2 m below the present surface. Three occupational levels were distinguished, two of which date to the Halaf period.

In the oldest level reached (Level III), a portion of a tholos wall was revealed (Fig. 8). The wall was approximately 60 cm wide and preserved to a height of over 60 cm (its base was not reached). It was built of hand-formed, tan to medium brown bricks set in a darker-colored mortar. Within the tholos three associated surfaces were detected, each consisting of pebbles and organic debris. Five pebble surfaces were recognized outside the tholos. Most consisted of sparse distributions of pebbles, sometimes mixed with organic debris. The surfaces were probably originally prepared by strewing pebbles on a flattened area, but with use many of the pebbles became embedded in the occupational surface or kicked aside. Several of the surfaces contained a fair amount of ash and other burnt debris.

Outside the tholos, associated with the third of the five surfaces, were two piles of large rocks (Fig. 8). Their positions and association with external surfaces used during the occupation of the tholos suggest that they may have been structurally related to the tholos, perhaps serving as supports for posts used to create an awning or roof. There was, however, no visible organic debris associated with the rock piles.

Post-dating the tholos was a surface consisting of pebbles, patches of reddish sand, and blackened debris (Level II). A substantial portion of a black, casually burnished pot with

⁸ The augering was carried out by Henry Wright, whom we would like to thank.

vertically pierced lugs was found in association with this surface.

The latest use of this area (Level I) occurred well after the Halaf period. A large pit, only a portion of which fell within the confines of the trench, was detected shortly below the plow zone and excavated to a depth of approximately 75 cm below the surface without reaching its base. A small portion of the sherds recovered from the pit were Halaf in date, but most were third millennium or later.

D20

D20 was begun as a 6 x 1.5 m trench. Because of severe time constraints the size of the trench was progressively reduced. The maximum depth reached was approximately 2.3 m below the surface. The stratigraphic sequence was divided into six levels (Fig. 7b).

The lowermost 0.9-1.0 m of excavated deposits consisted of clean, crumbly, reddish brown clayey silts with abundant tiny white pebbles (Level VI). Artifact density was very low. In section, there appears to have been a possible remnant of a surface within this deposit that was not recognized during the excavation.

Above the clean silts was a dark-colored, soft-textured, organic-rich midden (Level V). It contained much ash, charcoal flecks and abundant artifacts. It was interspersed with patches of the clayier, cleaner sediments that are characteristic of Level VI.

A short distance above the midden in the southwestern corner of the trench was a wall stub, approximately 30 cm wide, with possible plaster lines on each edge (Level IV). The stub was preserved to a maximum height of 15 cm and could not be traced sufficiently to determine if the wall was straight or curved. Associated with the wall was a fragment of a hard, well-made white plaster surface. It can be assumed to have been part of an interior space. Sloping down to the east of the plaster floor was a surface composed of tiny pebbles, probably an exterior space.

Above the wall stub and associated surfaces was a succession of other surfaces (Level III). Most are pebble-lined, with trashy debris accumulating on top of them (including in one case a high density of large animal bones). In no case were any walls found associated with the surfaces.

In the eastern portion of the trench was a surface covered with white marl. West and slightly above it, another pebble surface was discovered on which was a very dense artifact scatter. Above these surfaces near the southern edge of the trench were the remains of a decayed architectural feature with unclear outlines. The clay was probably part of a pisé structure, as no bricks could be identified. Associated with it was another pebble surface littered with bones, sherds and lithics.

The uppermost 20 cm was disturbed by plowing (Level II). Although partially intact deposits were found below that level, it should be noted that we found the marks of bulldozer teeth – apparently used to level the field – to depths of as much as 60 cm below the surface.

The only intact deposit that post-dated the Halaf period consisted of a large pit in the southwestern corner of the unit, which contained, in addition to Halaf pottery, several probable Middle Bronze Age sherds (Level I). The walls of the pit were more or less vertical, and it was partially lined with greenish grey plaster that appears to have been burnt in places. The

lowermost 15-20 cm of the pit was filled with almost pure, grey ash. The remainder of the fill contained numerous fragments of brick, some burnt and some not, sizable stones, and some ash. Because some of the plastered edges of the pit and contents of the fill were unburnt, this feature was probably not an oven; instead, it seems more probable that it was originally used as a storage pit (hence its plastered walls and regular shape) and was later filled with debris.

D21

Unit D21 reached a depth of 1.4 m below the present surface. Due to the small size of the exposure (1 x 1 m), the number of artifacts from this trench is extremely limited. However, almost all of the stratified material dates to the Halaf period. The stratigraphic sequence can be divided into two levels.

The earlier level (Level II) contained a wall. Associated surfaces were mostly of a white, calcareous material and may have been part of an interior space. On the uppermost surface a broken grinding stone was found.

The Level II wall continued to be used in Level I. The upper level also contained numerous calcium carbonate nodules, indicating that a period of abandonment followed. How long the Halaf remains were exposed to rain, wind and weather is unclear. One or two third millennium sherds were recovered in the upper loci of Level I.

This small test excavation has shown that Halaf occupational levels are easily accessible and well preserved in this area of the site. Of particular importance for our future work is that both architectural remains and a dense sequence of surfaces were identified, forming a significant contrast to the more ephemeral surfaces that characterize units D16, D17, and D20.

Summary of the Late Halaf Trenches

The Late Halaf trenches in the southeastern part of Kazane have two typical features of Halaf villages: outside areas consist of pebble surfaces, and buildings do not form a dense cluster. The Late Halaf structures at Kazane seem to be spaced farther apart than those at Khirbet esh-Shennef (Akkermans and Wittmann 1993: Abb. 5), Sabi Abyad (Akkermans 1989: 53, Fig. III.22) or Çavı Tarlası (Wickede and Herboldt 1988: 10, Abb. 2). Structures in D16, D17 and D20 are built out of hand-shaped mudbrick or pisé, rather than the oft-encountered tholoi with stone foundations.

The presence of trash heaps in D16 and D20 suggests a location at the edge of the Late Halaf settlement. Garbage disposal in trash heaps at the periphery of settlements is also known from Sabi Abyad level 6 (Akkermans and Duistermaat 1998: 11). At Kazane, the dumps are capped by subsequent occupations. What appears today as a flat surface in the lower town of Kazane may originally have been a low tell.⁹

Our analysis of the materials found in these trenches is not yet advanced enough to

⁹ In the 1998 season, a more central part of that settlement was identified to the west of D16, D17 and D20, near D21.

allow a correlation between levels from different trenches. However, it is clear that the entire assemblage belongs to the Late Halaf period.

Radiocarbon Dating

Three samples from the 1996 season were submitted to the radiocarbon laboratory at the Niedersächsisches Landesamt für Bodenforschung (Hannover) for dating (Table 3). Calibrations were made using the Radiocarbon Calibration Program 3.0.2 (Stuiver and Reimer 1993).

All of the dated samples come from deposits with typologically Late Halaf ceramics. Sample 21691 seems unacceptably early; furthermore, it yields a date that is significantly earlier than 21692 which is stratigraphically earlier than it. The dates for 21692 and 21693 are approximately contemporary, as would be expected, although the latter has a much higher standard deviation. Although the relatively large standard deviations make precision impossible, the dates fall in the middle third of the sixth millennium B.C. or slightly later (using one standard deviation), a reasonable result for later Halaf material.

Pottery from the Late Halaf Levels

Pottery was recorded in three stages. First, broad ware categories were devised which correspond approximately to the Sabi Abyad ceramic ware definitions (Le Mière and Nieuwenhuyse 1996). In a second step, all diagnostics were recorded using a much larger set of variables. Finally, specific sherds from primary and some secondary contexts were selected for more thorough analysis of the technology of production through detailed observations and neutron activation analysis.

Here we present only some results of the rough sorting into ware categories of the ceramics from the first season. We draw some preliminary conclusions from a comparison of D16 and D17 material and then comment on chronology. The ceramics from D16 and D17 fall into five major ware categories:

a) Grey Ware ("Vegetal Coarse Ware" in Le Mière and Nieuwenhuyse 1996: 184-186) consists of thick sherds, with cores that are almost invariably grey to black and surfaces that vary from black to grey to tan (Fig. 9a-d). Pots are roughly smoothed or burnished on the outside; a small number are polished.

b) A few "Red Wash Ware" sherds have a red wash or slip and are burnished. Temper ranges from fine to medium (see also Le Mière and Nieuwenhuyse 1996: 186-187).

c) A large portion of the Late Halaf sherds consists of unpainted buff sherds, the fabric of which is either fine or medium in consistency. These sherds belong in large part to the lower parts of painted Halaf vessels. However, the presence of some plain rims indicates that there must have been some completely undecorated vessels as well.

d and e) Halaf Painted sherds from the 1996 season fall into two large groups, called "medium" and "fine" in our preliminary sorting. "Fineness" refers to the grain size of the temper which is predominantly mineral. Both Halaf Medium and Fine Painted Wares come

in two subvarieties, according to the color of paint: predominantly black/ dark brown or reddish. A comparison between fineness and color of the Halaf Painted Wares reveals that the red painted sherds tend to be more frequently of Fine Ware (27.3% of all red painted sherds) than the dark painted ones (20.0% of all dark painted sherds). If one considers all painted sherds together, there are approximately three times as many dark painted as there are red painted sherds (Table 4). The reddish versus the darker color is not necessarily due to different pigments.¹⁰ Rather, it seems that in both cases a paint was used which appears darker when applied more thickly (Noll 1976). This is evident from some sherds classified as "polytone" (Fig. 13a, e), where one can easily see in one and the same motif a change from dark brown to lighter brown to a reddish hue (see also Breniquet 1998: 152). Firing atmosphere may also be an important factor for the color of the paint.

Preliminary sorting indicates many technological similarities in production processes among the different wares. All vessels from the Late Halaf levels were handmade. Oval mouths (Fig. 10c) and rounded bases (Fig. 9f) seem to be relatively common. A portion of the pottery appears to be finished on some kind of rotating device. Some of the bases may have been used as turning devices for this purpose.

In contrast to other published reports which often mention the fineness of the Halaf wares, our assemblage reveals a certain sloppiness in clay preparation. This is indicated by the numerous sherds with air bubbles in the walls, resulting from trapped air between coil joins. Relatively complex shapes were formed in a standardized fashion. The common high-necked jars (Fig. 10b, d, g) with a sharp angle at the neck were made out of two pieces of clay that were joined at the neck without much attempt to smooth the join. The painting of many designs was also carried out carelessly, with horizontal lines that slope down as the vessel was turned during the painting process (Fig. 12d, g). There are also differences between wares. Coiling patterns seem to be more standardized for the Painted Wares than for the Grey Ware. Some specific motifs, one typical for the Kazane assemblage (Fig. 13f-j),¹¹ were executed in a haphazard manner and tend to be associated with Halaf Medium Ware.¹² Other patterns, associated with the Fine Ware, are painted more meticulously (Fig. 12b). These patterns are more commonly found at eastern Halaf sites.¹³

Many Halaf sherds were reused, often being shaped into rounded disks, some of which have sharp, chipped edges, whereas others were carefully rounded and smoothed (Fig. 14a-d). A few of them have a hole in the middle. Secondary sherd use was also noticed at Sabi Abyad (Spoor and Collet 1996: 440-441), Khirbet esh-Shennef (Akkermans and Wittmann 1993: 159-160), and sites of the Amuq region (Braidwood and Braidwood 1960: 83-84, 118).¹⁴

A comparison of the assemblages from trenches D16 and D17 reveals a high degree of general similarity among the ceramics as well as some notable differences (Table 5). The general similarity is surprising when compared to the striking differences in other object

¹⁰ Chemical analysis will help distinguish manganese from iron oxide paint.

¹¹ See also Pollock and Bernbeck 1998: Fig. 5 (D16 - RN 4218).

¹² This impression is not, however, founded on a statistically sufficient sample.

¹³ A similar observation was made by Breniquet (1998: 149).

¹⁴ Sarah Kielt is presently undertaking a systematic study of sherd disks from Kazane.

categories (see below). Similar proportions of wares may imply uses in similar activities and/or that pottery was produced by a supra-household unit from which all households acquired approximately similar types and proportions of vessels. This does not mean, however, that ceramic production was centralized.¹⁵

Significant differences in vessel use may nonetheless have existed between D16 and D17. There is a higher percentage of Grey Ware in D17, whereas Halaf Medium Painted ware is much more common in D16 than D17. These differences may be interpreted as functional. The Grey wares include mainly large hole-mouth cooking pots (Fig. 9c). Further investigation of functional differences will require a more detailed study of vessel shapes.

However, an assessment of function through vessel shape may prove particularly difficult for the Halaf Painted vessels because we have few reconstructible profiles. Vessel breakage is especially high in D16, with an average sherd weight of 12.4 g per sherd as opposed to 15.6 g per sherd in D17; these figures may be compared to the values calculated for G18 (see above). The lower breakage rate in D17 with its many surfaces may be interpreted as an indication for the short-lived nature of the occupation in this area.

Contexts inside and outside the tholos in D17 reveal only one important difference: within the tholos, the percentage of Grey wares (49.1 %) is higher than outside (38.6 %). This may indicate that food preparation was carried out inside the tholos. Otherwise, preliminary evaluation of the ceramics suggests that in the area of D17 the difference between activities that were carried out within a structure and around it were not great. More marked differences exist between the area immediately around the tholos and the open dump area in D16. However, one should keep in mind that the D16 dump and the D17 architectural remains may not be strictly contemporary.

Chipped Stone from the Late Halaf

Considerable quantities of chipped stone artifacts were recovered. This discussion is based on the analysis of the chipped stone from 26 loci from D16 and D17.

The assemblage is characterized by an overwhelming use of chert rather than obsidian. The latter comprises less than 3% of the chipped stone by count, with very little difference between D16 and D17 (Table 6). The most common type of chert used, accounting for nearly half of the entire assemblage, is a fine-textured, dark grey variety that outcrops locally in the hills. Other types of chert are less common; brief descriptions of each are provided in Table 7.

Comparing the percentages of raw materials in D16 and D17, we see a broad similarity, albeit with some differences. Most striking is that the Coarse Fossiliferous chert is almost entirely confined to D17.

A comparison of densities (counts per cubic meter) of these raw materials in the two units reveals a rather different picture (Table 8): D17 has considerably higher densities of most

¹⁵ The finding of a possible clay settling tank at Domuztepe points to ceramic production at a relatively large scale (Campbell 1997: 9-10).

raw materials, and only in the category of burnt pieces does D16 have slightly more.

Weight densities exhibit a much more variable pattern (Table 9). The higher weight densities for several kinds of raw materials in D16 indicate that the average size of pieces of obsidian, Tan/Yellow and Tabular chert was greater in D16 than D17. Further analysis will be necessary to determine the reason for this patterning; one possible explanation may be that there was more primary core reduction of these materials occurring in D16 and more secondary reduction or reworking of tools in D17.

Our small samples and the limited number of different contexts excavated make contextual comparisons difficult. We can, however, compare raw material densities in loci from inside the tholos in D17 and those from the associated exterior surfaces, although it is imperative to bear in mind that much of the material may not be in primary context. Table 10 shows that densities of most raw materials are more or less comparable, but considerably more burnt and heat-treated cherts were recovered from within the tholos. This finding bears suggestive parallels to the greater density of cooking wares inside the tholos (see above). Coarse fossiliferous chert, in contrast, is somewhat more abundant outside the tholos.

Analysis of the chipped stone debitage has concentrated on identifying differences in reduction sequences for the various raw materials and evidence for different stages of lithic reduction in D16 and D17. We have recovered cores of all of the major raw materials recognized, suggesting primary reduction of all materials was carried out at the site (Table 11). The ratios of flakes to blades is similar for Dark Grey and Tan/Yellow cherts, whereas the Coarse Fossiliferous chert industry is dominated by flakes and the obsidian industry by blades.

Comparisons of densities of debitage categories in D16 and D17 reveal that D17 has much greater quantities of cores, core rejuvenation flakes, and unused flakes of Dark Grey chert than D16, whereas D16 contains more Dark Grey blades (Table 12). These data suggest that more primary reduction of Dark Grey was carried out in the D17 area. In contrast all of the cores and core rejuvenation flakes of Tan/Yellow chert come from D16. In summary, the evidence indicates considerable differences in where lithic reduction took place, depending on the kind of raw material.

We considered to be tools any pieces that had evidence of use and/or retouch. The vast majority of tools are lightly used and/or irregularly retouched flakes, blades (Fig. 15a, b), and chunks. More "formal" tools, including burins, notched pieces, drilling and piercing tools, and scrapers, were present in much smaller numbers. Table 13 presents counts and densities of various formal tool categories.

Burins (Fig. 15c-f) are far more common in D16 than D17. In D16 their density is considerably higher in the midden units (Level I) than in the upper levels. The single example from D17 post-dates the tholos. Nearly all of the burins recovered are made of Dark Grey chert.

Although *burin spalls* (Fig. 15g, h) have often been considered debitage--by-products of the manufacture of burins--their needle-like shape makes them suitable for a variety of uses. We did not detect any obvious use-wear on the burin spalls recovered, but we have not yet been able to examine any of them under a microscope. For the moment, we include them here as possible tools (cf. Finlayson and Betts 1990; Müller-Neuhoff 1996). Burin spalls, like the

burins themselves, are usually made of Dark Grey chert. In contrast to burins, spalls are found in comparable densities in D16 and D17.

Notched pieces (Fig. 16g, h) were made on flakes, blades, chunks, and even on a core rejuvenation tablet, using a variety of different cherts as well as obsidian. They are considerably more common in D17 than D16.

Drilling and piercing tools include small perforators made on blades or occasionally flakes (Fig. 16a-c, e), borers and microborers made on flakes or chunks, and one drill made on a blade. They predominate in D17, where all the examples recovered come from Level III, contemporary with the use of the tholos. More than half of these tools are made of Tan/Yellow chert; the remainder are of Dark Grey.

Scrapers (Fig. 16f, 17a), usually made on flakes or chunks, occur in approximately equal densities in both units. Most are made of Dark Grey chert.

The marked difference in densities of various tool types in the two units indicates quite different activities in the two areas. In D16 the high density of burins suggests the engraving or splitting of hard materials, such as wood or bone, whereas in D17 scraping is suggested by the notched pieces and piercing and drilling by the perforators and related tools. D17 also seems to have contained more complex tools, such as the working end of a bow drill (Fig. 16e).

Other Artifacts

Fragments of grinding stones were found in D17 and D20; none were recovered from D16. All are made of basalt. They have a grinding surface flattened by use or one that has a slight depression. Several examples appear to be the handstone portions of a grinding pair. Other ground stone artifacts include a stone celt from D17 that was chipped as well as pecked and ground (Fig. 17b) and a thin ground and polished slab with chipped edges from D20.

Two rounded stone cubes of similar size and shape were found in Level I of D16. Elsewhere stone pebbles were recovered that appear to be unworked but may have been chosen for their similar natural sizes and shapes; however, we did not collect them systematically enough to determine this with any certainty.

One seal of a chlorite-like stone was recovered (D16 Level III; Fig. 14e). It is button-shaped, pierced on the back for suspension, with a design of concentric circles. Two pendants were found, both broken. One is of black polished stone in the shape of a stylized bird (D17 Level III; Fig. 14f). The other is a very thin, elongated oblong made of ground and polished obsidian, with beveled edges and two holes at one end (D20 Level III; Fig. 17c).

From D20 Level V come two stone phallic-shaped objects (Fig. 17e, f). Both bear marks of abrasion from shaping, and both contain a single incised line around the circumference a little below their tips.

A single bone awl came from D20 Level V (Fig. 17d). It is possible that additional bone artifacts will be found when the faunal remains have been fully examined.

A few ceramic spindle whorls were found in D20. They are of a flat discoidal shape with traces of black paint. Others are pierced sherd disks (Fig. 14a).

Plant Remains

The light fractions from nine flotation samples from seven different loci from the 1996 season were examined by Dr. Naomi Miller (MASCA). One of these came from G18, three from D16 (from two different loci), and five from D17 (four different loci). Volumes of the samples ranged from four to nine liters.

All of the samples had very low densities of both charcoal and seeds. This may be due in part to the small size of the samples, their relative nearness to the surface where preservation is typically poor, and lack of samples from ashy contexts where plant remains might be expected to be better preserved. The only plant remains that could be identified were wheat, lentil, an indeterminate grass, and an indeterminate legume.

CONCLUSIONS

The first results of the investigation of the Halaf settlement at Kazane suggest an extensive use of the site within the Halaf period. So far, it is unclear whether the chronological gap between the G18 levels and the Late Halaf levels represents a genuine occupational hiatus or if it is due to the vagaries of choice of trench location. For the area around D16/D17, the augering suggests a considerable time depth of occupation. After the Late Halaf period, the site was probably abandoned for some time.

The main result of our preliminary evaluation of the data is that the widespread occurrence of Halaf sherds on the surface of the site does not indicate that there is everywhere dense or substantial occupation. Instead, the Late Neolithic levels, for example, are situated at the edge of an ancient river channel, probably near fields, and represent the remains of huts that were temporarily used in times of high labor demand in the agricultural cycle.

The area with Late Halaf levels contains structural remains of more substantial nature. A comparison between the two major excavated units, D16 and D17, suggests important differences in the activities that are indicated by the remains from these two units. Overall, the differences point towards a higher degree of mobility and herding associated with D16 and more evidence for sedentariness and agriculture in D17 (Table 14).

One indicator for agriculture is the density of grinding stones. These items are totally absent from D16 but occur in some quantity in D17. Sickle blades, another potential sign of agricultural activity, are absent from both units. Positive evidence for the intensity of herding is more difficult to obtain. Whatever their precise function(s), it seems from approximately contemporaneous sites in the southern Levant that burins were an important item used in societies where there was a focus on herding (Finlayson and Betts 1990). A comparatively high density of burins in D16 accords well with the expectation that this unit contains activities of a relatively mobile group.

Complex tools are very rare in all Halaf contexts at Kazane. One item, a blade with a highly polished and rounded edge, was most probably part of a bow-drill, an instrument that consists of a number of different parts. Such items, as well as the very fragile perforators, were

preferred by the people who left their traces in D17, while curated tools, made out of discarded items such as broken ceramic vessels, are almost entirely restricted to D16. The functions of sherd discs or sherd scrapers, in particular whether their function was related to herding, remains to be established. A further argument for greater mobility associated with D16 can be adduced from the density of lithic raw materials. Non-local raw materials, i.e. obsidian and tabular chert, occur in D16 in much higher weight densities than in D17. If we assume that the users of unit D16 were more mobile than those of D17, then it is logical that they would have had contacts to a larger geographical realm outside the village and had easier access to non-local raw materials.

Finally, it is noteworthy that D17 contains a higher percentage of Grey ware than D16. This could be due to differences in the emphasis in food preparation. The more substantial character of the tholos in D17 and the better prepared outside surfaces in D17 when compared to D16 also point towards a more sedentary way of life in the D17 area.

Most of the differences discussed here are differences *in degree*, not absolute ones. Further analysis and the inclusion of qualitatively different data (bones, phytolith and other plant remains) are necessary to give our tentative conclusions a firmer basis or modify them. Only additional evidence will allow us to address our initial question, i.e., whether these differences in the distribution of subsistence-related data are due to a specialization of entire households, or whether one larger social unit included subunits that had specific economic foci.

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Table 1: Sherd Densities in Surface and Fill Contexts from Kazane, G18.

The presence of outliers would significantly skew means and standard deviations. Therefore, more robust measures of central tendency and dispersion are used here.

D e n s i t i e s				
	Minimum	Maximum	Median	Interquartile Range
Surfaces	0	1777	1389	1223
Fill	29	400	177	25

Table 2: Occurrences of Wares and Grouped Wares in the Lower G18 Sequence, Kazane. ("Other" includes unusual Late Neolithic as well as intrusive ceramics).

Layer	U n g r o u p e d W a r e s (%)						G r o u p e d W a r e s		Total Ct.
	GRC	CM	FRP	FBP	FUP	Other	C o a r s e	F i n e	
IV	78.2	0.3	2.6	--	9.1	9.8	78.5	11.7	350
V	69.0	3.4	6.9	4.3	13.8	2.6	72.4	25.0	116
VI	86.4	--	2.3	--	11.4	--	86.4	13.7	44
VII	93.3	1.6	0.4	0.8	4.0	--	94.9	1.6	252

Table 3: Radiocarbon Dates from Kazane, D16 and D17.

Lab No.	Unit	Locus	RN	Description	Age bp	Cal BC (1 σ)	Cal BC (2 σ)
21691	D16	13	4254	debris on pebble surface (Level III)	7255 \pm 215	6350 - 5870 BC	6460 - 5670 BC
21692	D16	18	4271	debris over pebble surface (Level II)	6705 \pm 185	5710 - 5440 BC	5950 - 5270 BC
21693	D17	19	4085	pebble surface with much ashy debris (Level III)	6565 \pm 335	5720 - 5150 BC	6040 - 4780 BC

Table 4: Painted sherds (based on 34 sorted collections from the 1996 excavations)

	D16		D17	
	Total	%	Total	%
Black Paint	400	71.3	109	74.7
Red Paint	161	28.7	37	25.3

Table 5: Counts and percentages of wares in D16 and D17

	D 16		D 17	
	Count	%	Count	%
Grey Ware	390	30.0	214	40.9
Red Wash Ware	3	0.2	9	1.7
Buff Unpainted	347	26.7	154	29.4
Halaf Medium Painted	443	34.1	107	20.7
Halaf Fine Painted	118	9.0	39	7.4

Table 6: Percentages of chipped stone raw materials in D16 and D17.

Unit	Obsidian	Dark Grey	Tan/ Yellow	Tan/Grey Banded	HT Tan/ Yellow	Fossili- ferous	Tabular	Burnt
D16	3	54	23	6	5	< 1	< 1	8
D17	3	49	13	13	6	13	< 1	4

Table 7: Brief descriptions of chert types recognized in the later Halaf levels.

Raw material	Description
Dark Grey	ranges in color from dark grey to tannish; fine, waxy texture; some whitish inclusions; thick white limestone cortex
Tan/Yellow	tan to yellow; waxy to matte texture; usually translucent when thin; thin limestone cortex
Heat-Treated Tan/Yellow	based on ad hoc experiments, Tan/Yellow chert turns reddish to purplish when heated; waxy texture
Tan/Grey Banded	tan to grey, sometimes with banding; matte texture; thin reddish cortex
Coarse Fossiliferous	coarse-textured, with numerous large, whitish inclusions; light grey to whitish in color
Tabular	thin and flat pieces; waxy texture; tan to reddish; thin white limestone cortex
Burnt	any chert that exhibits potlid fractures and/or substantial crazing and/or blackening

Table 8: Counts and densities (counts per cubic meter) of chipped stone in D16 and D17.

Obsidian			Dk Grey		Tan / Yellow		Tan/Grey Banded		HT Tan/ Yellow		Fossiliferous		Tabular		Burnt	
Unit	ct	den	ct	den	ct	den	ct	den	ct	den	ct	den	ct	den	ct	den
D16	14	6.4	280	128.8	118	54.3	30	13.8	26	12.0	2	0.9	2	0.9	42	19.3
D17	19	12.4	360	235.3	94	61.4	100	65.4	42	27.5	96	62.8	2	1.3	28	18.3

Table 9. Weight densities (grams per m3) of chipped stone raw materials in D16 and D17.

Unit	Obsidian	Dark Grey	Tan/ Yellow	Tan/Grey Banded	HT Tan/ Yellow	Fossili- ferous	Tabular	Burnt
D16	13.9	469.2	216.7	68.6	31.9	7.9	234.1	42.1
D17	6.5	1156.2	159.4	236.2	25.3	1111.1	31.4	15.7

Table 10: Count densities (per m3) of chipped stone raw materials inside and outside the tholos in D17.

Unit	Obsidian	Dark Grey	Tan/ Yellow	Tan/Grey Banded	HT Tan/ Yellow	Fossili- ferous	Tabular	Burnt
inside tholos	13.9	284.7	111.1	86.8	31.3	55.6	6.9	45.1
outside tholos	15.4	307.0	89.9	105.3	17.5	89.9	0	19.7

Table 11: Counts and ratios of selected categories of debitage.

	Flake cores	Blade cores	Core frags.	Core rejuven- ation flakes	Unused flakes: unused blades
Dark Grey	6	3	5	14	203:51 = 4.0:1
Tan/Yellow	1	2	0	2	107:21 = 5.1:1
HT Tan/ Yellow	0	0	0	0	17:5 = 3.4:1
Fossiliferous	3	1	0	0	60:1
Tan/Grey Banded	1	0	0	5	68:4 = 17.0:1
Obsidian	0	2	0	0	2:14 = 0.1:1

Table 12: Densities (counts per cubic meter) of selected categories of debitage in D16 and D17.

	Dark Grey		Tan/Yellow		Fossiliferous		Obsidian		Tan/Grey Banded	
	D16	D17	D16	D17	D16	D17	D16	D17	D16	D17
Cores + core rejuv.	3.7	13.1	2.3	0	0	2.6	0.5	0.7	0	3.9
Unused flakes	40.5	75.2	23.9	34.0	0.5	38.6	0	1.3	6.4	35.3
Unused blades	16.6	9.8	6.0	3.3	0	0.7	1.8	6.5	0	2.6

Table 13: Counts and densities (counts per cubic meter) of selected chipped stone tools in D16 and D17.

Tool type	D16		D17	
	ct	density	ct	density
Burins	13	6.0	1	0.7
Burin spalls	19	8.7	14	9.2
Notched pieces	8	3.7	15	9.8
Drilling/piercing tools	2	0.9	10	6.5
Scrapers	6	2.8	4	2.6

Table 14: Differences between areas D16 and D17

(M = variables associated with relative mobility; S = variables associated with relatively high degrees of sedentariness).

	D16	D17
Grinding stones	none (M)	several (S)
Burins	many (M)	one
Complex tools	none (M)	at least one (S)
Perforators	few	many
Secondary sherd use	many (M)	little or none
Non-local lithic raw materials	high density (M)	low density
Ceramics	more painted	more cooking/ food preparation (S)
Architecture	pisé, ephemeral (M)	mudbrick, tholos (S)
Surfaces	mostly pebble	pebble

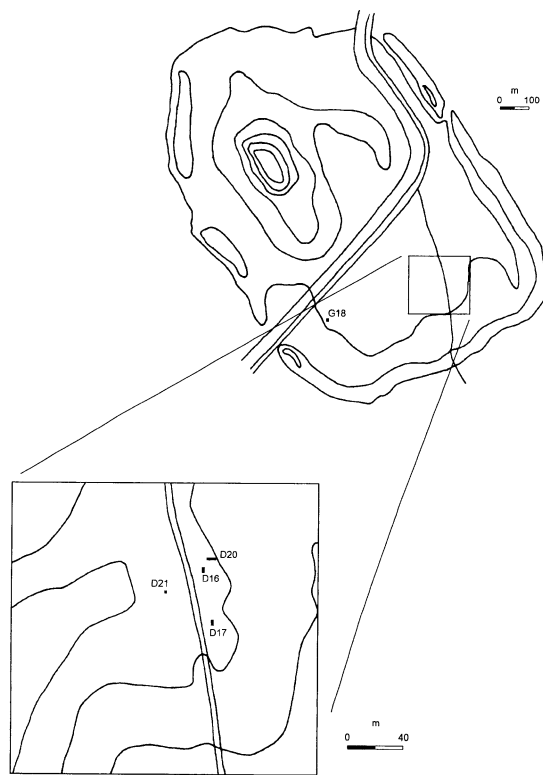


Fig. 1. Map of Kazane and location of trenches with Halaf / pre-Halaf layers.

G18: North Profile

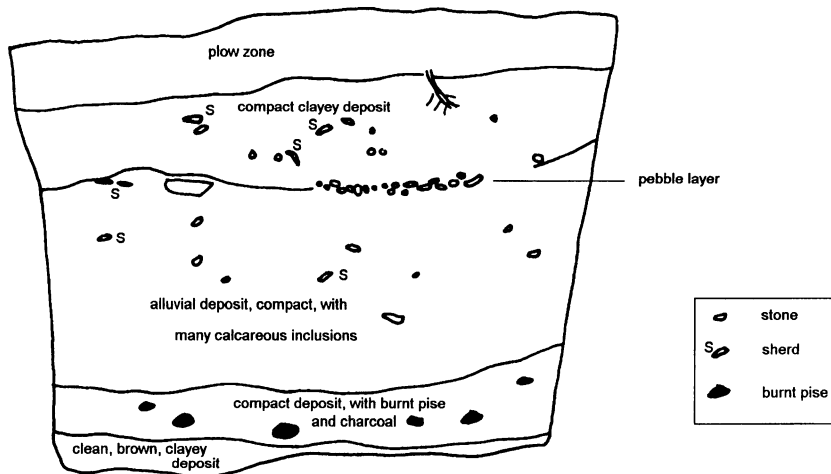


Fig. 2. North profile of unit G18.

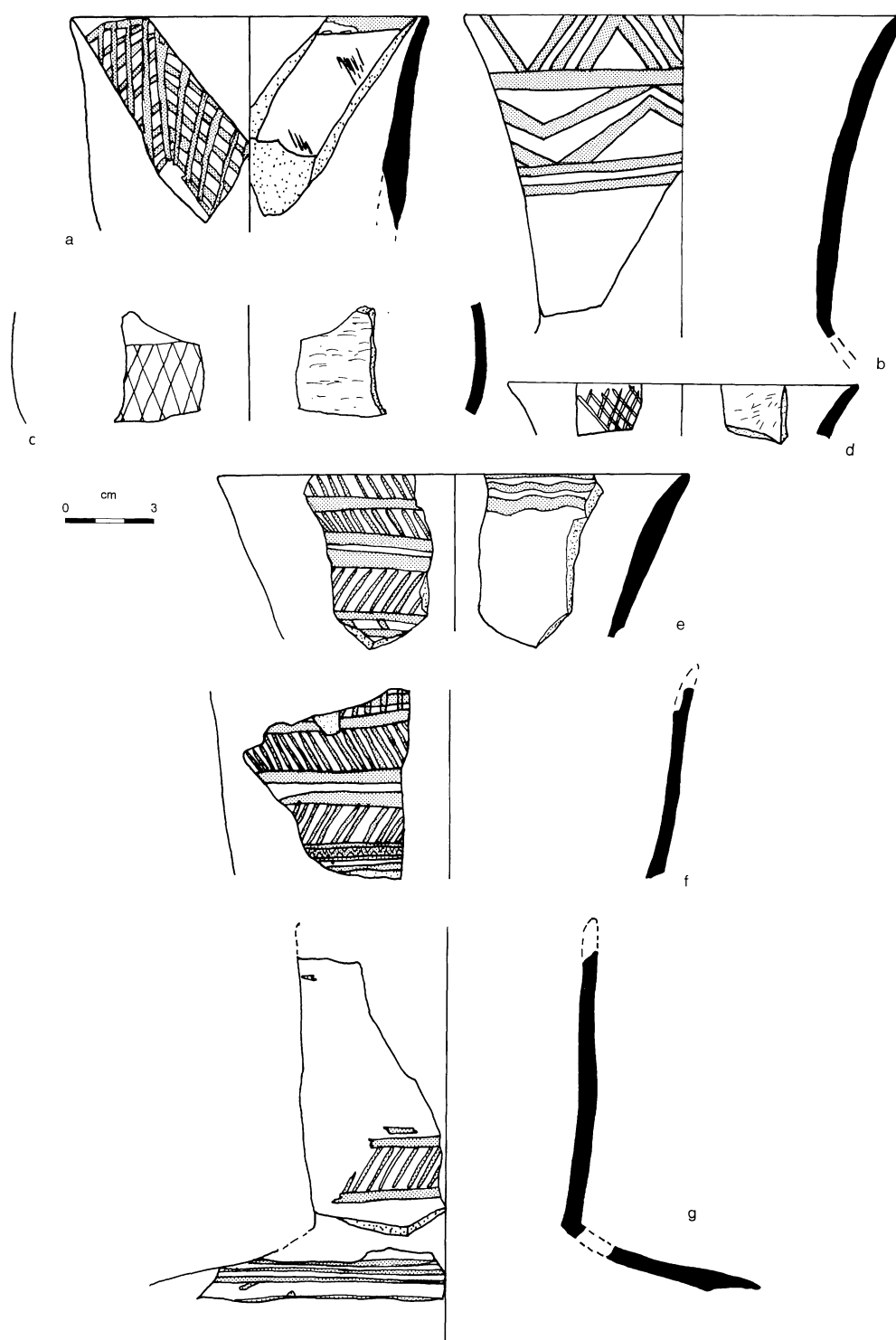


Fig. 3. G18 ceramics

a: fine orange ware; b, e-g: fugitive red painted; c: grey incised ware; d: pattern burnished.

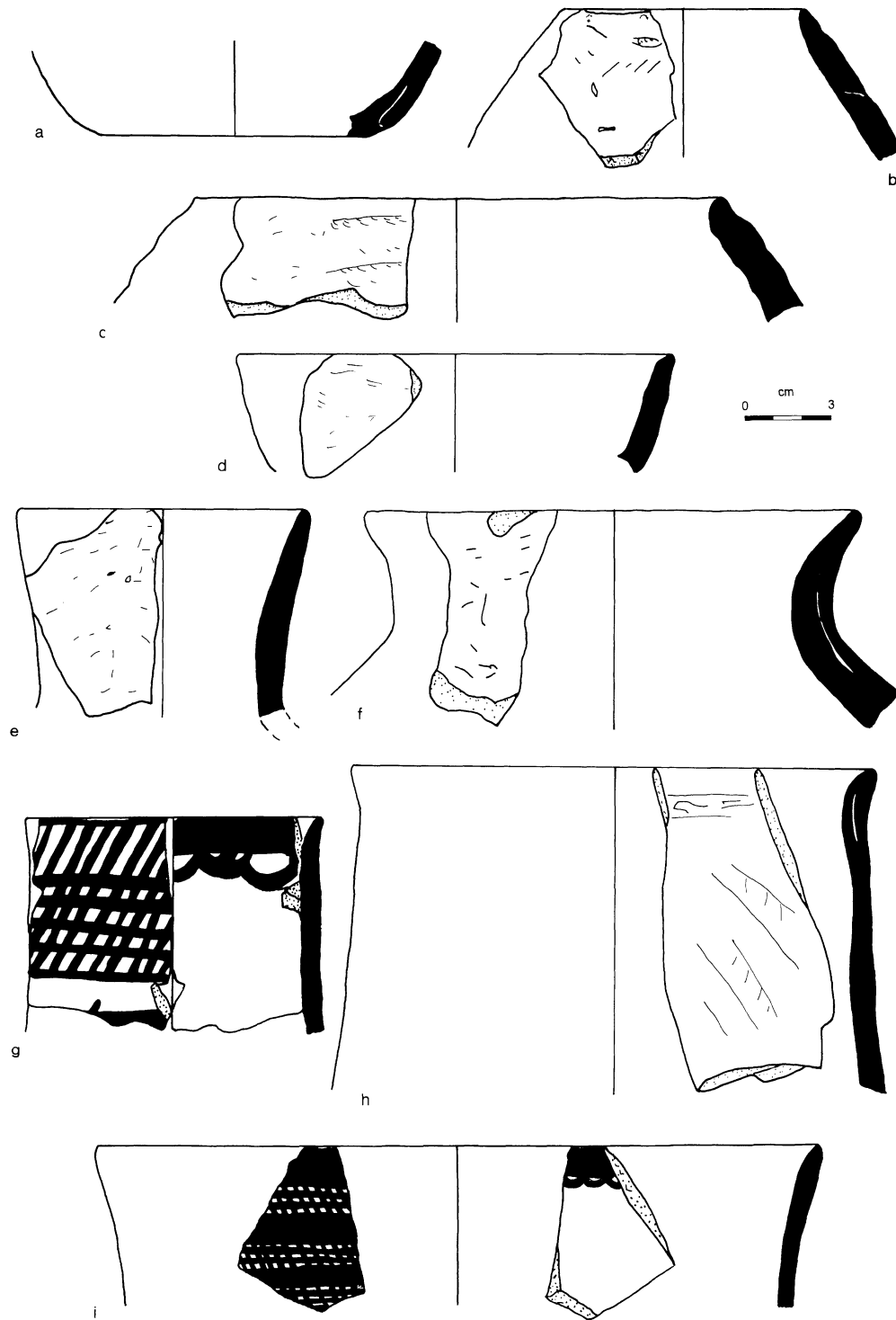


Fig. 4. G18 ceramics
 a-f, h: coarse wares; g, i: fugitive black painted.

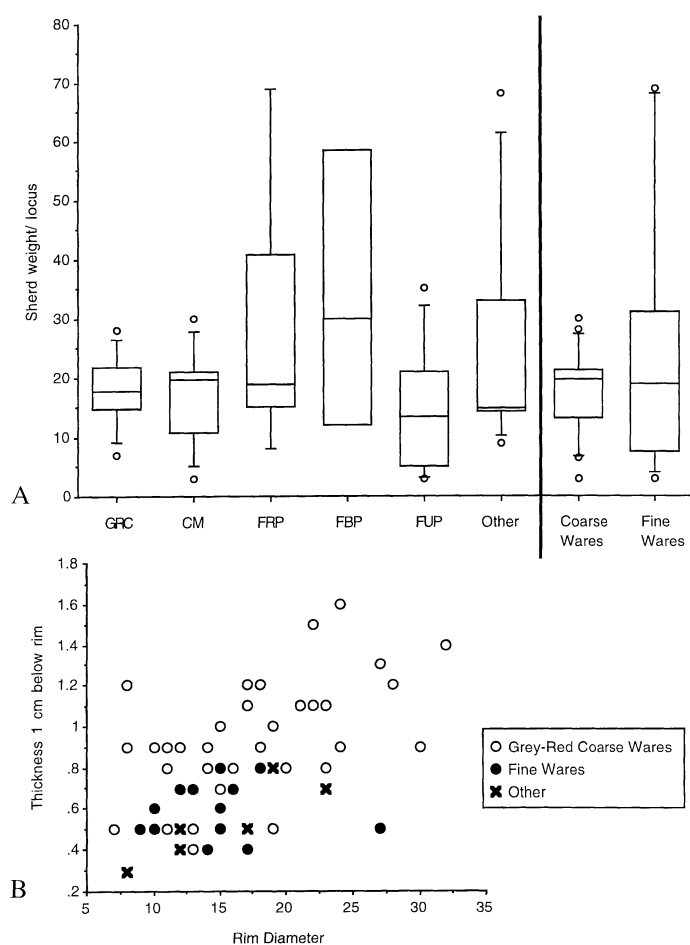


Fig. 5. a: G18: average sherd weight per locus; b: G18: vessel sizes for ware groups

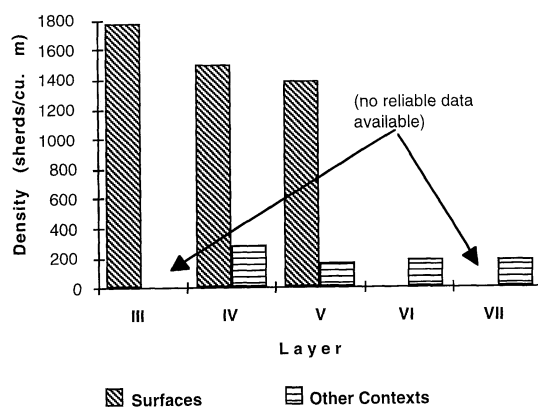
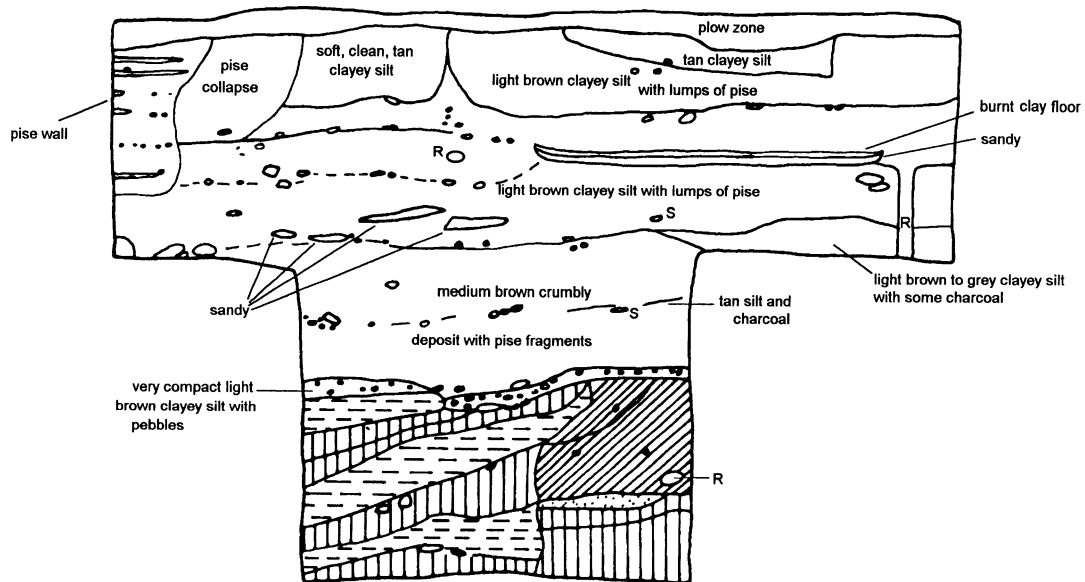


Fig. 6. Alternating fill and surface sherd densities, G18.

D16: East Profile



D20A: South Profile

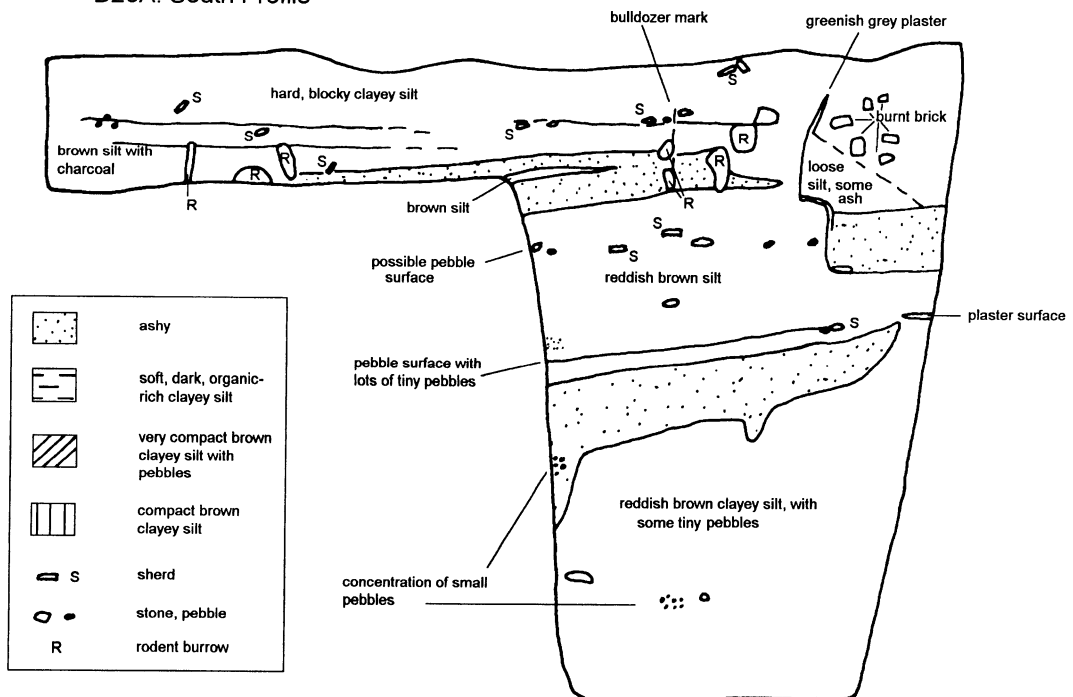


Fig. 7. a: East profile of unit D16; b: South profile of unit D20.

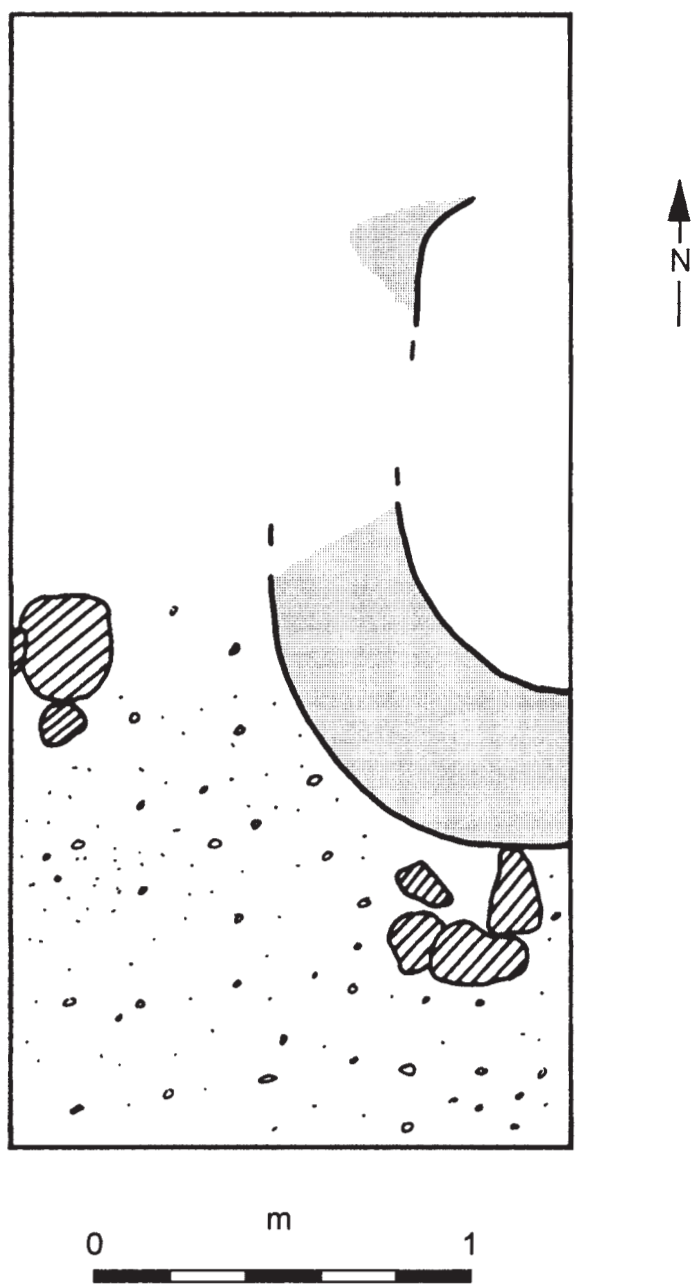


Fig. 8. Plan of tholos from unit D17.

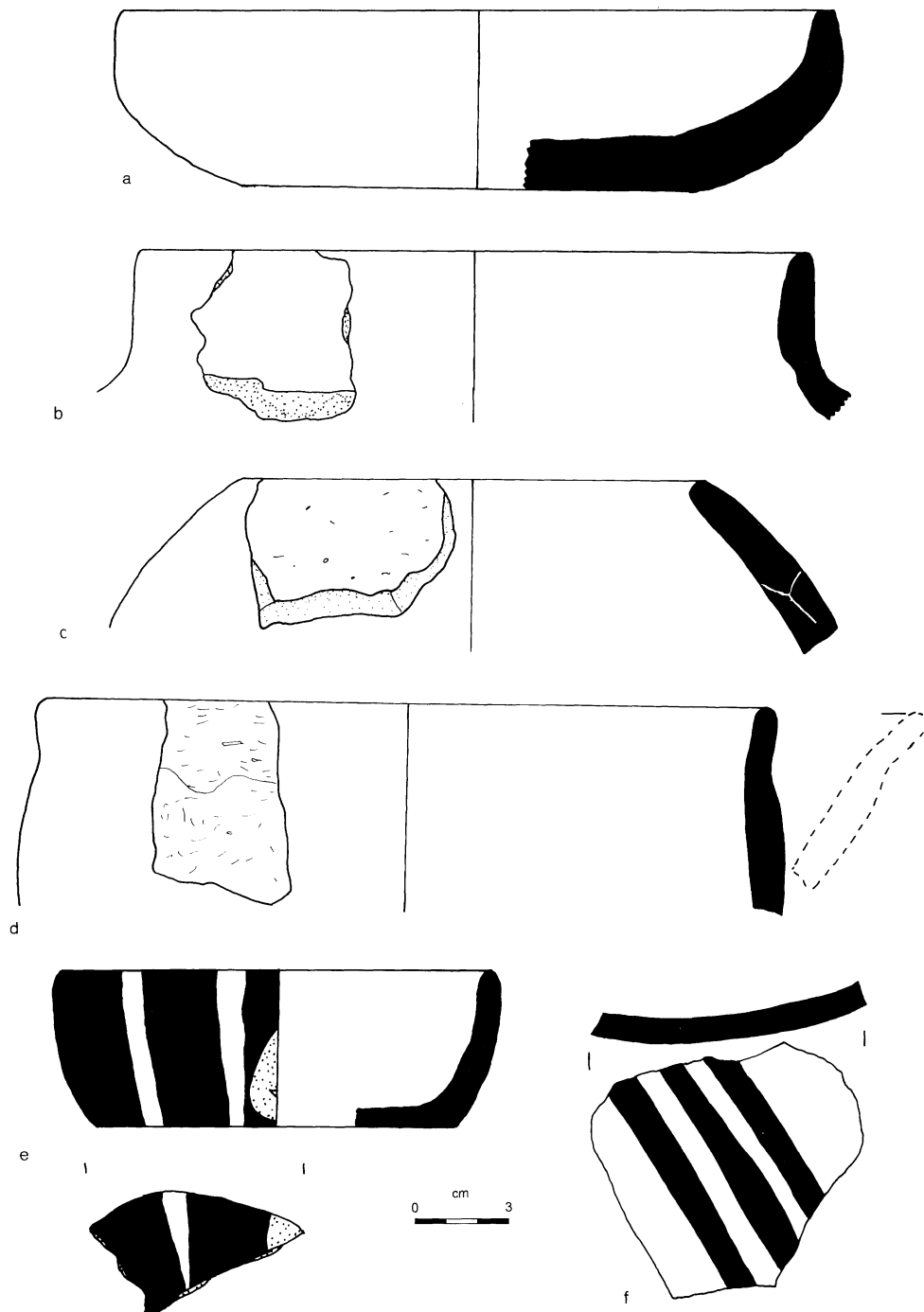


Fig. 9. Late Halaf ceramics
a-d: Grey ware; e-f: Halaf painted.

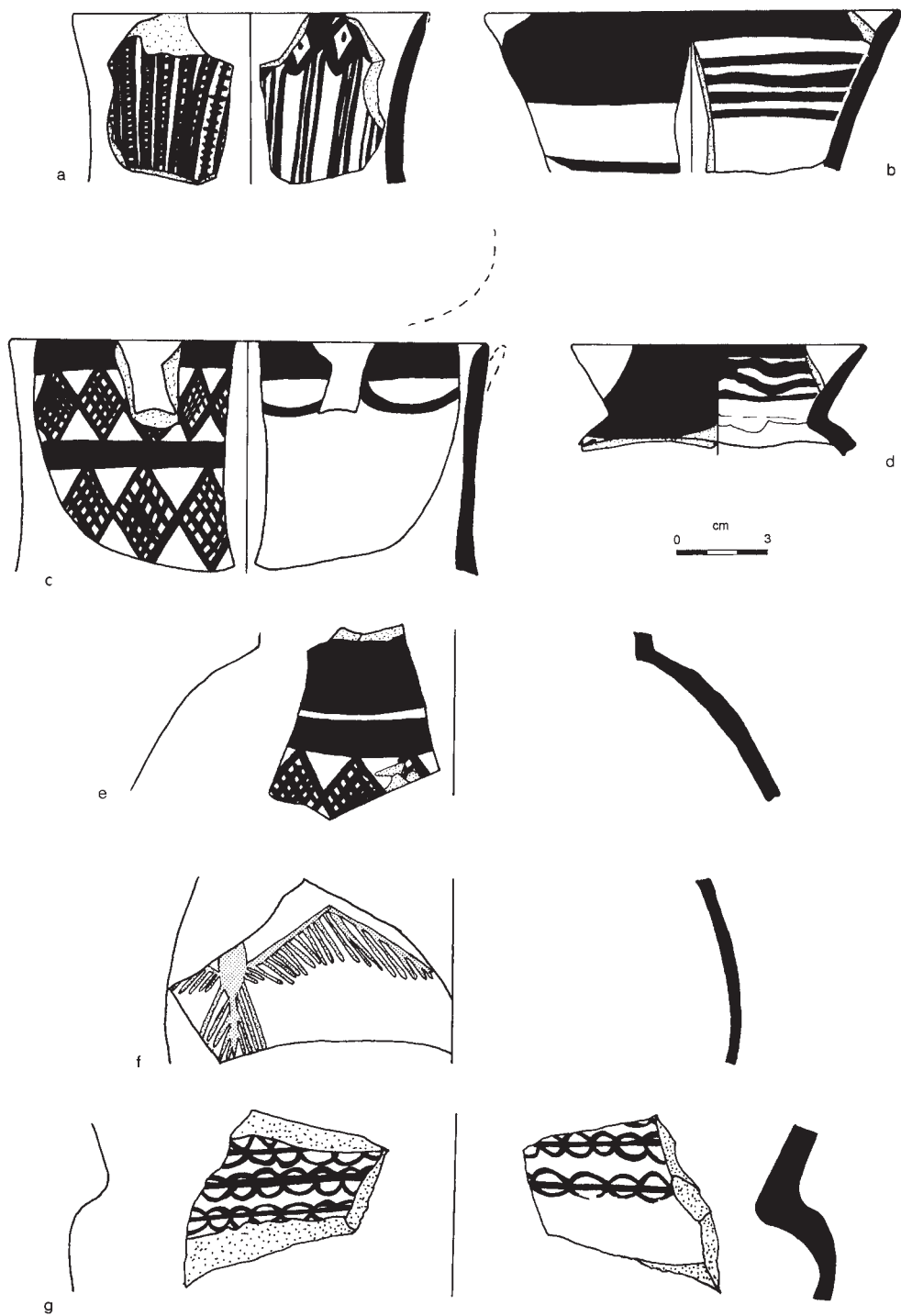


Fig. 10. Late Halaf ceramics
a-e, g: Halaf dark painted; f: Halaf red painted

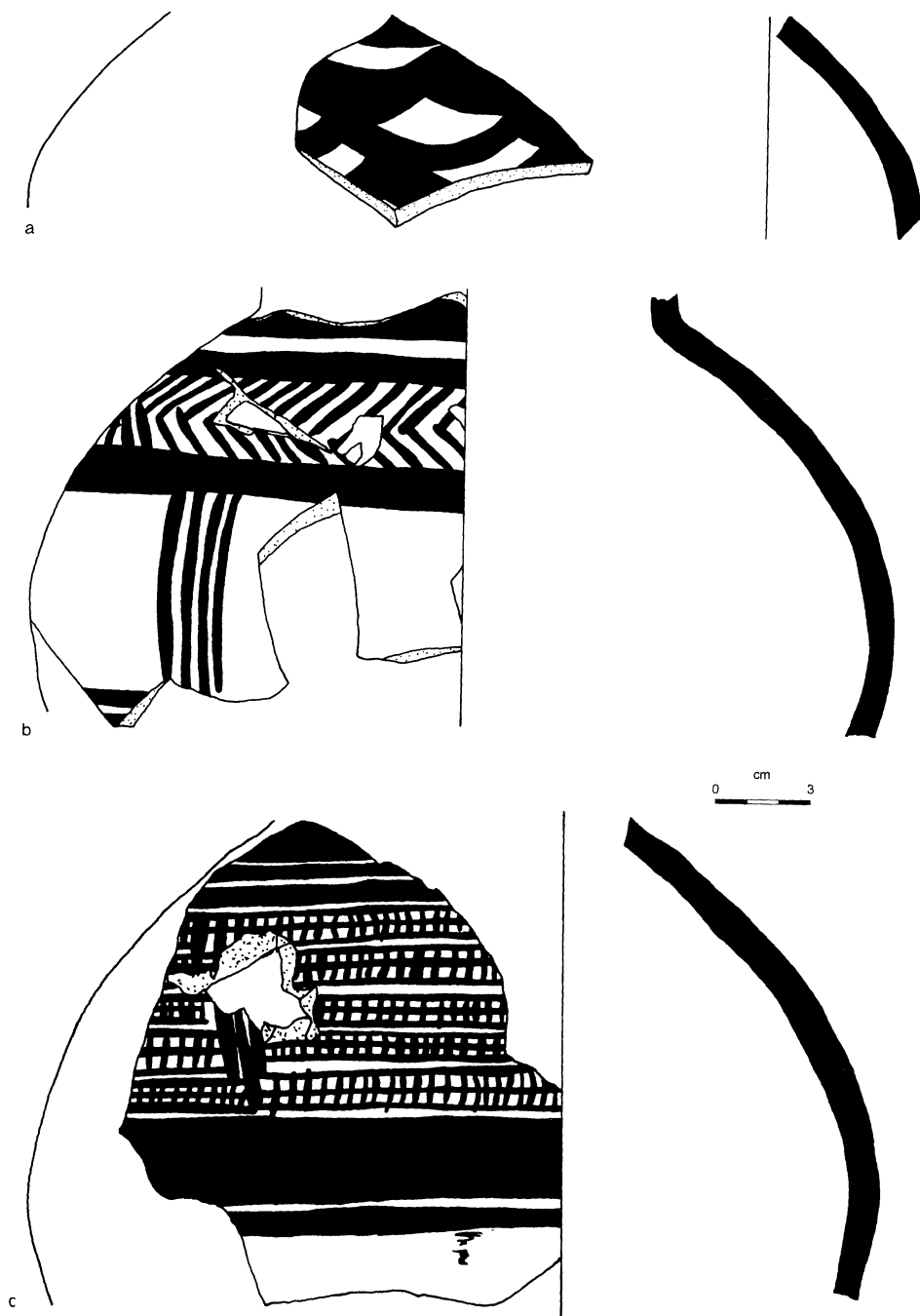


Fig. 11. Late Halaf ceramics
a-c: Halaf dark painted.

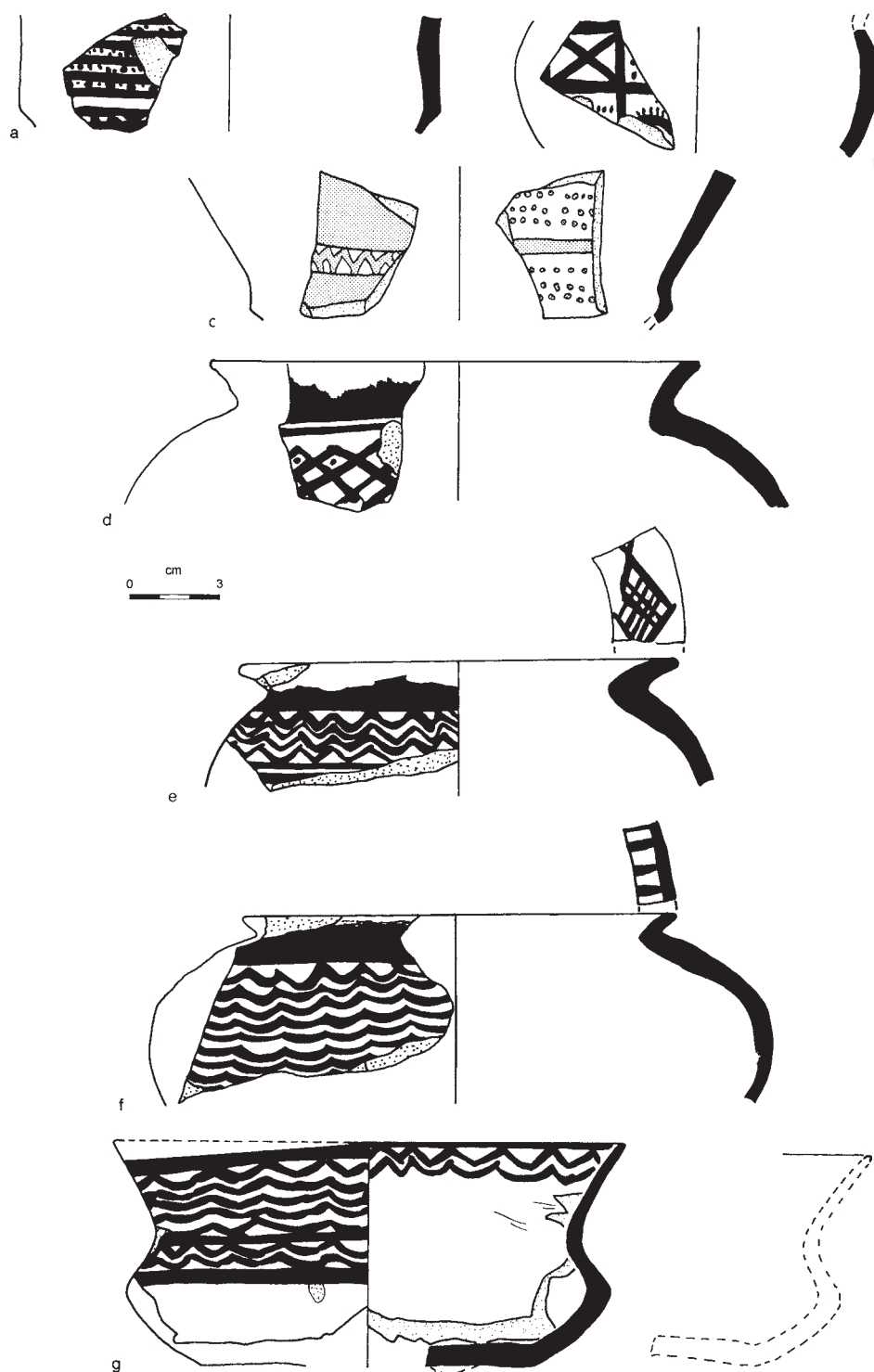


Fig. 12. Late Halaf ceramics
 a, b, d-g: Halaf dark painted; c: Halaf red painted

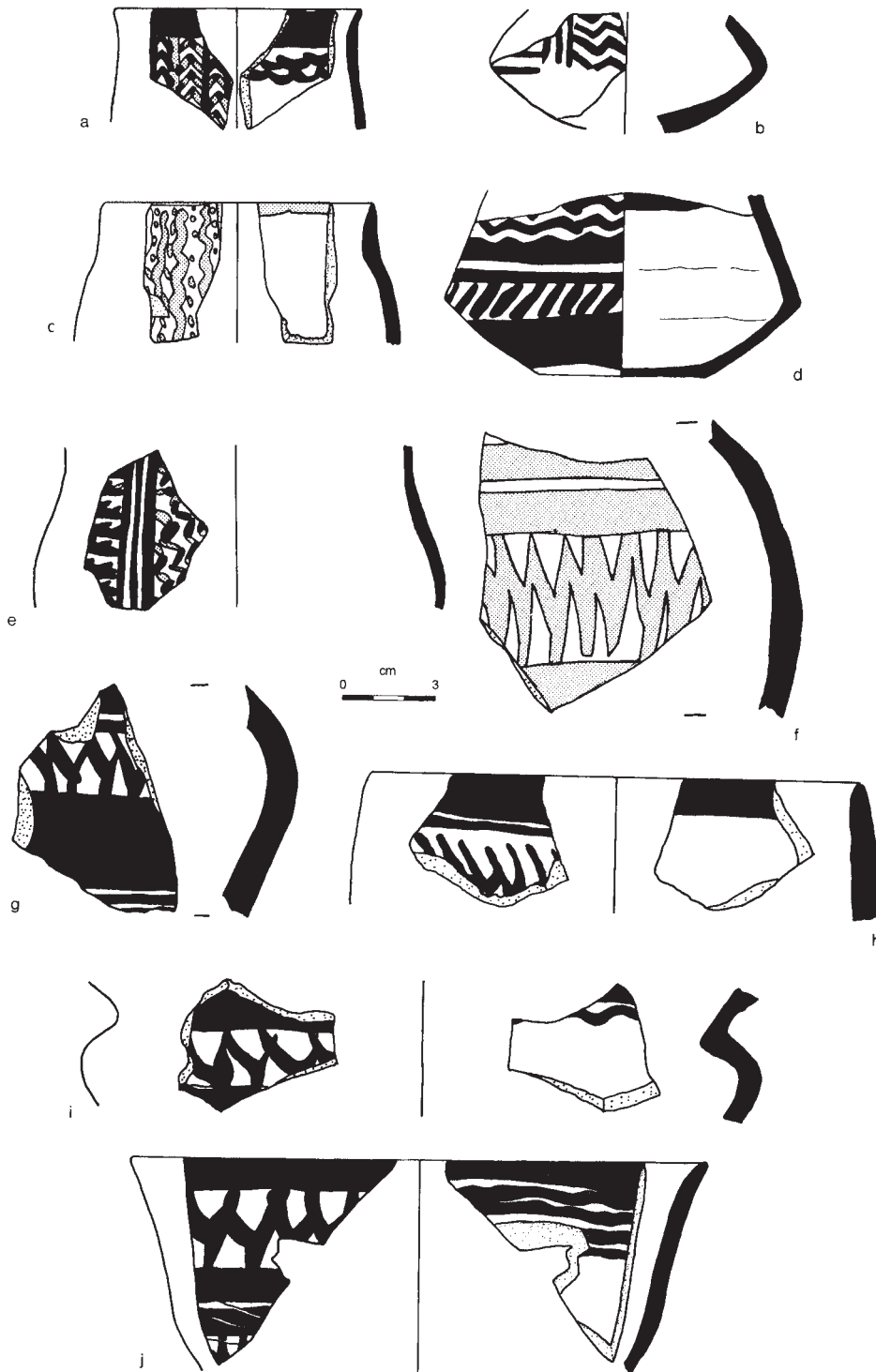


Fig. 13. Late Halaf ceramics
 a, e: Halaf polytone; c, f: Halaf red painted; b, d, g-j: Halaf black painted.

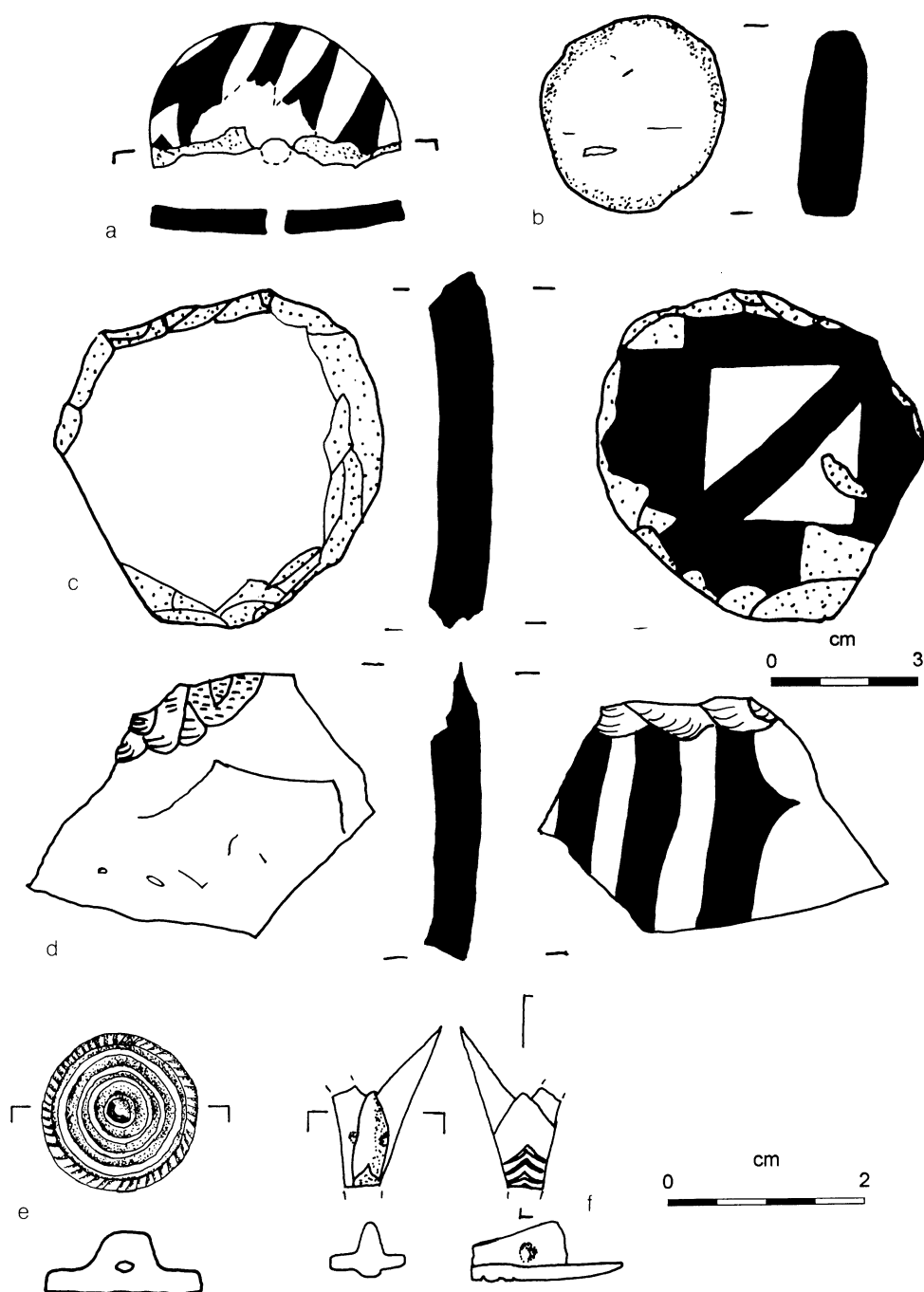


Fig. 14. Late Halaf objects
a-d: sherd disks; e: seal; f: stone pendant.

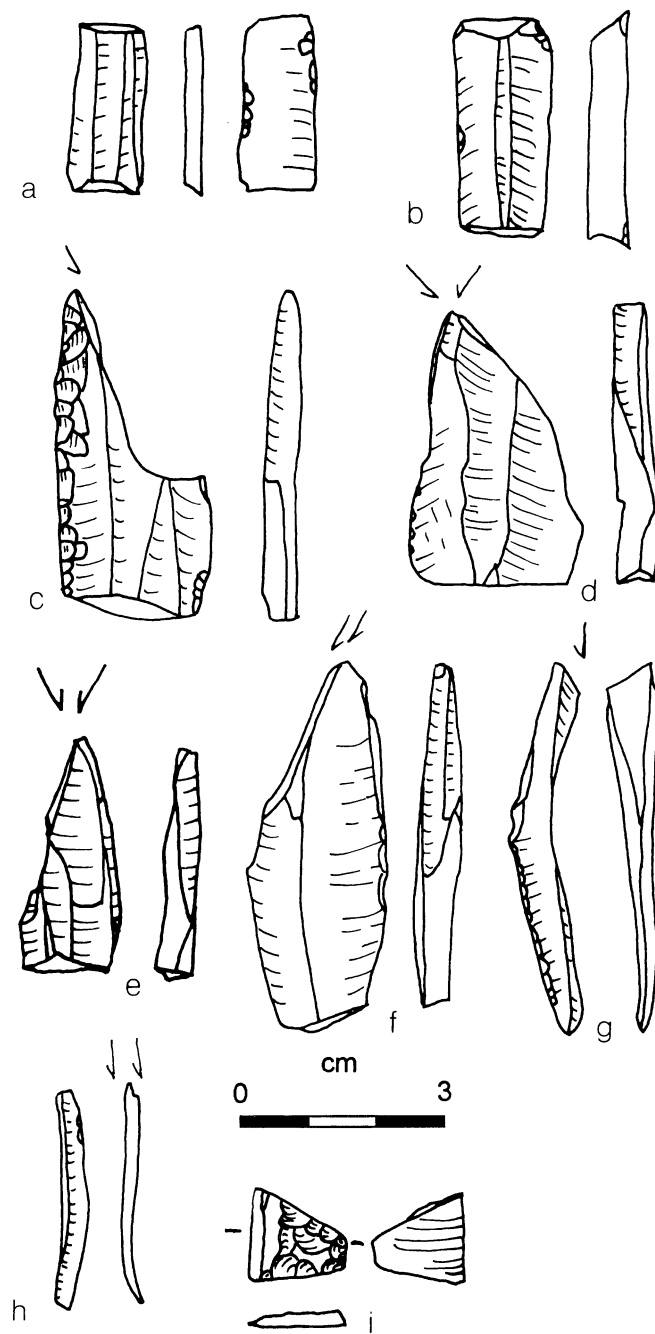


Fig. 15. Late Halaf lithic industry
 a, b: blades; c-f: burins; g-h: burin spalls; i: transverse arrowhead.

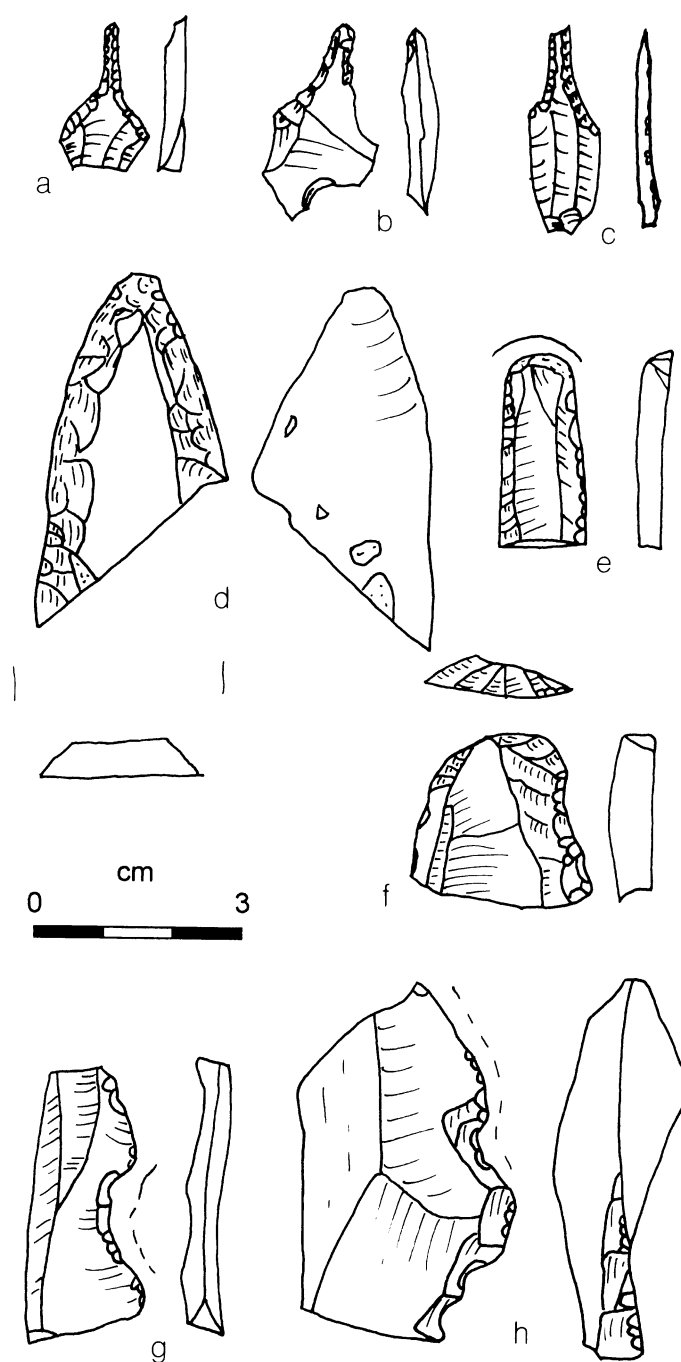


Fig. 16. Late Halaf lithic industry
a-c: perforators; d, f: scrapers; e: drill; g, h: notched pieces.

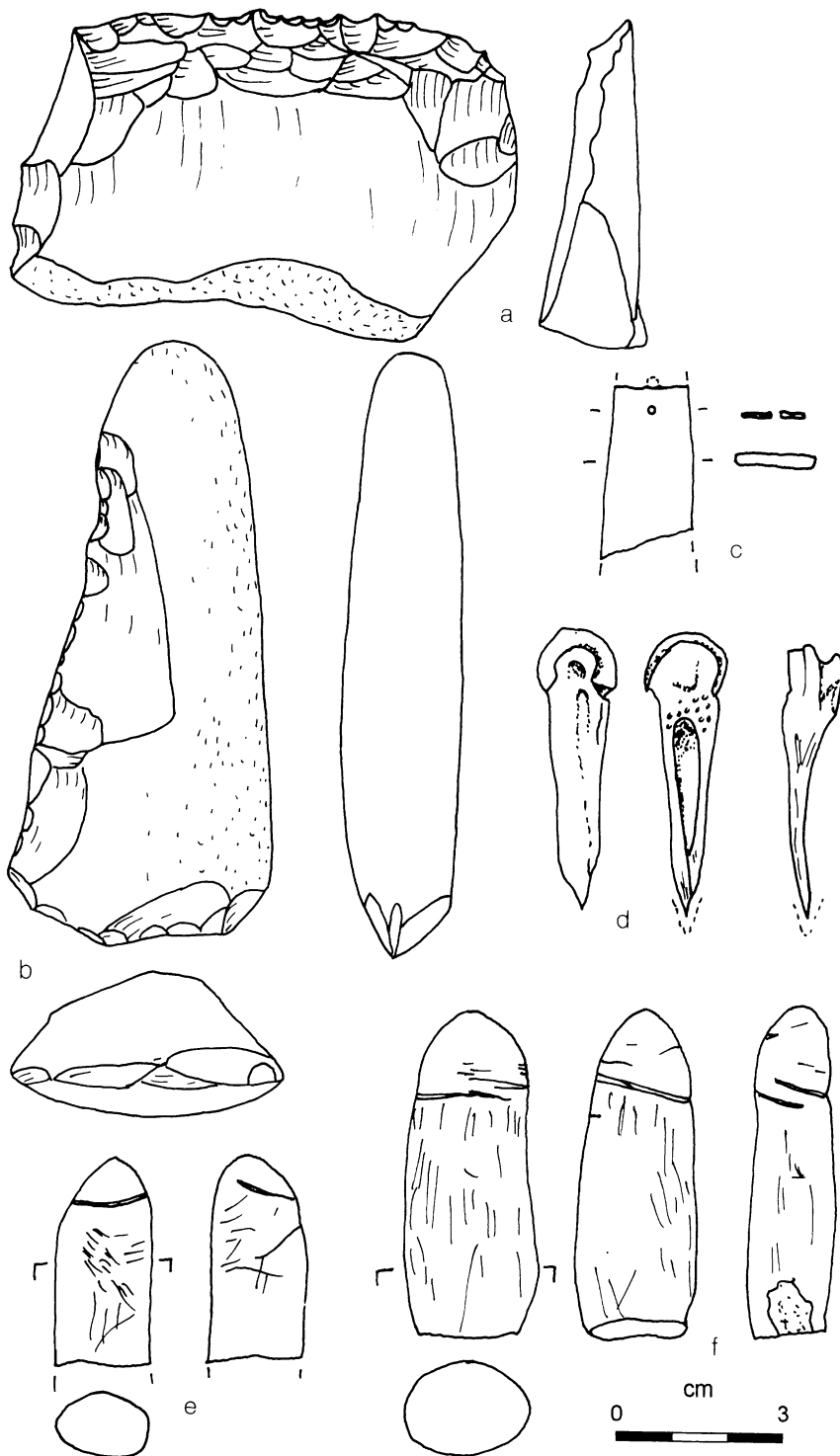


Fig. 17: Late Halaf lithic industry and small finds
 a: scraper; b: adze; c: obsidian pendant; d: bone awl; e, f: stone phalloi.

THE 1998 ALIŞAR REGIONAL PROJECT SEASON¹

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I. THE EXCAVATIONS AT ÇADIR HÖYÜK

Preface

The 1998 season of the Alişar Regional Project (ARP) once again demonstrated the importance of Çadır Höyük's material remains.² The current excavation program was composed of two elements including 1) Excavation on the mound of Çadır Höyük and 2) a continuing regional survey. Activities of the ARP were made possible through grants from the National Geographic Society, The American Research Institute in Turkey / United States Information Agency, the Curtis T. and Mary G. Brennan Foundation, The State University of New York College at Cortland, the Anatolian Archaeological Research Foundation, and generous private donations.³ The Çadır Höyük Excavations have been planned with the Turkish Department of Monuments and Museums as a long-term excavation and by upgrading our 1994 salvage permit to a full excavation permit in 1998, the Turkish authorities recognized the significance of this critically important site.

Our association with Çadır began in 1993 when the focus of our project was centered on the important site of Alişar Höyük. In addition to the excavations at Alişar, the project

¹ The Çadır Höyük Excavations are a part of the Alişar Regional Project. Field Excavations are being conducted under the supervision of Dr. Ronald L. Gorny (Director/University of Chicago) and assisted by Dr. Gregory McMahon (Associate Director (UNH), and Dr. Samuel Paley (SUNY-Buffalo), and Dr. Sharon Steadman (SUNY-Cortland). The Alişar Regional Survey is under the Direction of Dr. Bruce Verhaaren (University of Chicago/Argonne Nat. Lab.).

² Members of the 1998 Çadır Höyük Excavation team also included Sadık Arslan (driver), Lauren Bigelow (Northwestern University), Scott Branting (University of Chicago), Miriam Chernoff (Boston University), Nathalie Costa (SUNY-Buffalo), Kathy Geers, Philip Kaarsgaard (Scotland), Jonathan Lange (University of Chicago), Stan Morse, Oscar Muscarella (Metropolitan Museum of Art, New York), Holly Oyster (SUNY-Buffalo), Susan Rabidou (Argonne National Laboratory), Sengül Salman (Government Representative), and Konnie Wescott (Argonne National Laboratory). Illustrations and plans were drawn by Philip Kaarsgaard who was assisted by Nathalie Costa and Holly Oyster.

³ The Project was also assisted in additional ways by the Explorer's Club (flag no. 172), the University of Chicago, The University of New Hampshire, the State University of New York - Buffalo, and the State University of New York - Cortland.

included a regional survey component, which led us to Çadır Höyük (Fig. 1). Because of impending flooding in the area due to the recently constructed Gelingüllü Dam (Gorny 1994: 194), we were asked to document the cultural sequence at Çadır in 1994 (Gorny et al 1995: 65 ff.). Our removal from Alişar to Çadır turned out to be a blessing in disguise as it provided an unsuspected means of investigating the early periods of central Anatolian history with a great deal more efficiency and ease than the huge efforts that would have been necessitated at Alişar (cf. Gorny 1993: 174, Fig. 4; Gorny et al 1995: 80 - 81). This was fortuitous in that it not only provides us with a means of collecting substantial data on the earliest periods of the region's history, but it may eventually allow for a more concentrated effort at Alişar that could focus on the Second Millennium without the burden of having to remove (literally) tons of overburden just to reach a small area of the prehistoric periods. Thus, our efforts in 1998, and in succeeding seasons, will be devoted to revealing Çadır Höyük's prehistoric remains.

Excavations during the 1998 season were concentrated on the southern slope of Çadır Höyük where important prehistoric remains had been uncovered in 1994 (Fig. 2). The objective of the 1998 campaign was to define both vertically and horizontally, the prehistoric sequence, enabling us to attain a clearer understanding of the settlement history at the site. In order to accomplish this, we continued efforts in the 1994 2 x 2 sounding and opened up two adjacent 10 x 10 squares (770.890 and 770.900) around the sounding. The combination of these two endeavors allowed us to proceed both vertically, with an eye towards understanding the cultural sequence, and horizontally, which would provide a fuller picture of economic prehistoric activities and settlement organization at the site. By concentrating our efforts in this way, we also hoped to attack one of the most vexing problems in Anatolian archaeology, the Chalcolithic/Early Bronze I (EB) transition. By season's end, our work had gone a long way towards achieving the stated goals. Not only were the chronological limits of the settlement at Çadır extended from the Late to Middle Chalcolithic (including the documentation of at least three settlement phases), but an initial understanding of the residential quarter and its associated economic activities was also achieved.

As noted above, the prehistoric remains at Çadır Höyük are much more easily accessible than those at Alişar. One reason for this relatively easy access to the Chalcolithic materials at Çadır was the morphology of the mound and the manner of its formation. When the initial settlement was undertaken at Çadır, it was established along a limestone ridge overlooking the Eğri Özü valley (Fig. 3, also cf. Branting 1996: 157, Fig. 1). A smaller streambed to the south and west of the site formed an additional limit to expansion in that direction (Gorny 1996: 93, Fig. 12). This seems to have been similar to the pattern throughout the Kanak Su region as exhibited by other one period sites such as Otlu Höyük (Branting 1996: 157, Fig. 1, site no. 43). Because Çadır was located on the edge of this low ridge, ensuing settlement could not push outward in all directions from the center as happened at Alişar. Instead, settlement continually edged away from the ridge to the northeast, leaving the prehistoric materials near the surface along the southern edge of the mound. While some of these early materials may have eroded away over the years, the presence of a Chalcolithic period enclosure wall along the southern edge of the site strongly suggests that most of the settlement was preserved (Fig. 4).

Another reason for the preservation of Chalcolithic levels in this area probably lies in the terracing that took place on the mound in later periods (below). Evidently, this was a wide-spread activity at Çadır for what are presumed to be additional terrace walls are still visible protruding through the slope's surface on the west side of the mound. In fact, one reason for selecting the southern slope of the mound for our investigations was the desire to avoid digging through these structures. Unknown to us, the presumed terrace walls, while not visible from the surface, still existed just beneath the surface. They had been effectively hidden from our view by massive amounts of tumble that derived from the Byzantine fortification wall on top of the mound (Gorny *et al* 1995: 72-73; Fig 13).⁴

An interesting consequence of our location along the edge of the mound is that many of the early materials were affected by the constant flurry of activity that took place along the edge of the mound in antiquity. This was especially true of the pottery which was extremely broken because of its vulnerable position. As Fig. 20 in our 1995 article shows (Gorny *et al* 1995: 99), our efforts in the 1994 sounding produced a large quantity of small sherds. Although these small pieces of pottery made it difficult to understand the sequence clearly, they did provide us with a working context that led to a plan for succeeding seasons and inspired the current round of excavations at the site. As we moved away from the edge of the mound into the main areas of settlement, the sherds became larger until we began finding complete vessels *in situ*.

The proximity of the slope to the surface, however, also affected the condition of the architectural remains. Not only were the tops of settlement remains on the west side of 770.890 clearly damaged by this flow of activity, but segments of the Roman/Byzantine terrace wall also seem to have disappeared from the slope as it got closer to the surface on the eastern edge of the square. Whether the terrace wall simply fell into disuse and eroded down the slope or was purposely removed is unclear. All we know for the present is that the terrace wall simply disappears as it approaches the edge of the trench. In addition, the top of the Chalcolithic enclosure wall (F 22) was cut by, not only the Level I Chalcolithic structures, but by some later activity as well. The lack of any evidence for a mudbrick superstructure in this segment of the Level II Chalcolithic wall probably derives from the fact that it was denuded either by construction of the Roman/Byzantine terrace wall or other activities (human or natural) taking place along the edge of the mound. In the following sections we will explore the individual areas of our excavation.

Square 770.900: The Deep Sounding

Previous excavations indicated that settlement on the site extends back to at least the Chalcolithic period (Gorny *et al* 1995) and one of the goals of the excavation season was to more fully document the vertical sequence in the deep sounding. Work began with an exten-

⁴ At least four rows of these terrace walls are also visible in the aerial photo published in our 1994 report (Gorny *et al* 1995: 90, Fig 8).

sive cleaning necessitated by a three year absence from the site. Subsequent to the 1994 season, a great deal of erosional fill had fallen into the sounding and this erosion, when finally cleaned, left us with what amounted to a 3 x 3 sounding. In addition to erosional fill in the sounding, we soon discovered that local villagers had dug into the bottom of the sounding in search of spoil. Two additional holes (Robber Trenches 1 and 2) were dug by villagers adjacent to the deep sounding and had to be incorporated into our 1998 excavation plan (see below).

After a thorough cleaning of the 1994 sounding was completed, actual excavation was continued with the result that we were able to delimit at least three different levels of the Chalcolithic Period. The levels are preliminarily labeled as Levels I, II, and III, counting from latest to earliest. Levels I and II both appear to belong to the Late Chalcolithic while Level III apparently represents the Middle Chalcolithic.

The present excavations expanded the 1994 sounding with a 3 x 2 m extension immediately east of the earlier exploration. This extension was envisioned as a means of facilitating the removal of soil from the bottom of the deepening sounding, but early results proved more interesting than we had anticipated. It not only played a decisive role in explaining the results of our 1994 work, but provided valuable insights into the overall organization of the Chalcolithic settlement we began to uncover during the current season.

Just beneath the surface of this extension, much as in 1994, cultural remains began to appear. These remains are associated with Wall F2 found in 1994 and with Level I remains found this year in 770.900. Within a few centimeters of the surface were found two child burials. Both burials were much disturbed but they did provide us with solid evidence of Chalcolithic occupation in this area. The first of these burials (Fig. 5) seemed to lie on top of thin water-laid erosional lenses and beneath these erosional layers, a clear plaster facing (F 11) was exposed that we soon linked to a plaster installation noted in 1994. Further investigation showed the plaster facing of F 11 to be the vertical side of a plaster basin that had been relined frequently and which had subsequently been filled in by the aforementioned erosional deposits (Fig. 6). The burial found in the erosional fill of this basin was contained in two pots, one of the Black Polished variety and the other of buff Plain Simple Ware. The remains were extremely friable and contained no grave goods, though a pendant similar to Alişar examples did appear just above the burial and may have originally belonged to it (cf. von der Osten 1937: 86, Fig. 91, c 1934 and c 1665). Further investigation of the plaster basin showed the installation to be preserved to a depth of at least .54 m with a width and length measuring approximately 1.55 x 1.35 m. The plaster facing was constructed against mud bricks that had been set above stone foundations as seen in the south section of the deep sounding. This parallels the construction of a second plaster basin situated immediately next to the wall of a structure just east of the first basin in Square 770.890. The exact purpose of these two plaster installations is unclear as they remain largely unexcavated, though several suggestions are offered below.

The second child burial was found in close proximity to the first, but just beyond the area of the first plaster basin. It too rests on erosional materials, but unlike the first burial, has no clear association with any architectural element. Further excavation, however, may yet

show it to be a sub-floor burial as in the case of burials 3 - 6 found in 770.890. The second burial was contained in a heavy bulbous vessel that may have been made to resemble a woven basket. Once again, it was in poor condition, disarticulated and possessing no grave goods. While soil samples were taken to assist in determining whether the vessel held any other contents, those results have not yet been forthcoming.

Level II of the Chalcolithic was defined in the 1994 sounding by a stone wall foundation (F 3) that had been sealed by a plaster surface (F 4) over which the above mentioned basin (F 11) was then built. While no additional evidence of this phase was uncovered in Square 770.890, it seems likely that the enclosure wall (F 22) exposed in adjacent Square 770.900 is to be connected with this occupation level. The enclosure wall, which was partially cut in the southernmost part of the trench, presumably by the people who built the plaster basins, appears to run right under the basin. It is just east of the sounding extension and apparently extends just south of the square. It seems likely that a linkage between Walls F 3 and F 22 will be found in succeeding seasons.

Further excavation in the bottom of the sounding exposed the remains of Level III. Wall F 14 appeared at the bottom of the sounding and a very well-made plaster floor (F 13) lipped up against it (Fig. 9). This plaster was very different from that of the white plaster bins being extremely hard packed and almost shiny from use. Pottery from the lowest excavated level of the sounding remained primarily of the Black Burnished style, often with knobs and appearing in a variety of forms. Some Brown Burnished pottery also appeared in association with this Wall, both in 1994 and 1998.

Above Wall F 14 was found the mudbrick superstructure of Wall F 10 which had been built after Wall F 14, but up against its mudbrick superstructure. Wall F 10 was situated outside and above wall F 14, forming a corner over the remains of wall F 14. However, in spite of the fact that Wall 10 is stratigraphically later than Wall 14, the fact that the walls were build side-by-side seems to suggest that a relatively short space of time separated their construction and that they must have been roughly contemporary. In addition, we were now able to associate the loosely packed surface (F 6) uncovered in 1994, and on which was found a beautifully cut chert blade (cf. Gorny et al 1995: 77), with the mud brick courses of Walls F 10 in 1998.⁵ Thus we appear to have two roughly contemporary walls with associated surfaces forming the basic elements of Level III in the deep sounding.

Square 770.900, 770.890, and 760,900: The Horizontal Exposure

In order to take advantage of the easy access afforded prehistoric materials on the south side of the Çadır mound, three 10 x 10 m exposures designated as squares 760.890, 770.890 and 770.900 were opened north and west of the 1994 sounding (Figs. 7 and 8). The purpose of these squares was to provide a means of investigating the economy of a prehistoric settlement in central Anatolia and to provide a base from which we could see how the site's

⁵ Additional blades and scrapers were found in the deep sounding during the 1998 campaign.

economy may have changed over time. In spite of our best-laid plans, however, we found the situation to be different from what we had expected. In the 1994 step-trench, we had come down upon early material remains soon after breaking the soil (Gorny *et al* 1995). Square 770.890 proved to be another matter. After the removal of the square's topsoil we proceeded to uncover layer upon layer of rock tumble. All told we excavated through approximately 2 m of this rock tumble which, although extremely mixed, suggested a late Classical Period date. Immediately after removing this material, we came upon the upper layer of the preserved Chalcolithic level and proceeded to document as much of the area as time allowed.

The only discernible architectural element found above the Chalcolithic level in square 770.890 was the large stub of a wall (F 18) which we believe to be the remains of a terrace or retaining wall. The nature of this structure is unclear as it represents only a small segment of what must have been a much larger system of terrace construction. The front of the wall appears to have been dug into the mound and is clearly set off by a foundation trench which cuts into and delimits the uppermost part of Chalcolithic Level I in square 770.890. At first, it seemed as if this wall was anchored by a concreted center section that was probably Byzantine in date, but it now has become clear that this mass of cemented rocks at one time had been part of the Byzantine fortification wall that sat atop the citadel and which had fallen (or been pushed) down the slope of the mound, only to be wedged in its current position by the already existing terrace wall (above; cf. Gorny *et al* 1995: 72-73). The exact relationship of this mass of rock to the terrace wall is unclear, however, since this is exactly where Robber Trench no. 1 had been dug. The accumulation of rocks uncovered around and over the terrace wall must have also come from higher up the mound and tumbled down its steep slopes.

Once the stones from this late classical structure were removed in Square 770.890, we immediately came down upon remains of the Chalcolithic period Level I which appear to have been sealed by the late classical terracing (Fig. 10). Within a short period of time, not only did walls appear, but associated with those walls were numerous complete vessels which had been left *in situ* and covered by the stone terracing above it. Some, such as the set of two upside-down bowls and an upside down cup, were apparently sitting on the floor, while those belonging to the burials were situated under the floor.

Square 770.900 showed evidence similar to that found in 770.890. Multitudes of stones had tumbled down the slope and settled into a rather flat area of the mound apparently created by the terrace wall observed in Square 770.890. Although the section suggests this to be the case, the actual wall that would have created this terrace petered out at this point and could only be traced by what appeared to be the wall's trench line along the southern edge of the mound. A great deal of Chalcolithic pottery was mixed in this fill.

Based on the apparent richness of materials in 770.890, a 2 meter strip of square 760.890 was opened directly south of the original excavation area as a means of understanding what had been disturbed by Robber Trench 1. This portion of the excavation proved to be one of our most productive areas and offers even more potential for investigating the Chalcolithic period at Çadır. This square had very little overburden and in some areas there was less than a centimeter of accumulation. A scraping of the surface in this area produced evidence of mudbrick walling (F9) which was associated with a plaster facing similar to the basin

found in the extension of our deep sounding. Slightly to the west was another wall (F11) against which was a burned area that yielded the fragments of several “fruitstand-style” bowls, as well as a unique omphalos bowl, all dating to the Chalcolithic period. The northern stretch of this wall F11 was cut by the stone terrace wall (F18) as already noted above. Materials from the foundation trench of this wall were all Chalcolithic, but pottery from the portion of the wall that was removed indicates a Late Classical date for this structure. Unfortunately, the eastern extent of this wall was cut away by Robber Trench 2, making an accurate definition of its course difficult to confirm.

Architecturally, all the walls of the Chalcolithic period were constructed obliquely to the face of the mound with a northwest-southeast orientation which was probably an attempt to use the mound itself as a means of offsetting the weak construction methods of the period and lend stability to the buildings (Fig. 11). The presence of at least two additional plaster-lined basins in square 770.890 shows that the first example found in the deep sounding was not an isolated example, but characteristic of settlement I construction. The basins appear to be built right up against houses, though in the latest example, the plaster facing appears to be one edge of a narrow plaster-lined casing which is itself either nested inside or cut through an even larger plaster basin. Wall F9 appears to have intentionally been built inside this narrow structure. We hope to further document this interesting assemblage in 1999.

Ceramics

The 1998 excavations produced a large inventory of ceramic finds, and our initial efforts to negotiate the Byzantine terrace produced numerous buckets of pottery displaying a mix of everything from the Chalcolithic to Byzantine period. The predominant pottery in the terrace fill of both squares 770.890 and 770.900 appears to be a Late Iron Age ware related to Late Phrygian ceramics as described by Hendriksen at Gordion (1993; 1994). Significant amounts of every other period described in our 1995 report (Gorny *et al* 1995) were uncovered from what is clearly a very rich site.

As might be expected, the Chalcolithic repertoire (Figs. 12 and 13) found at Çadır displays a strong resemblance to the Alişar assemblage (von der Osten 1937: 52-78). Black Polished Wares predominated with knobs being a common feature along with small handles connecting the rim and upper body (cf. von der Osten 1937: 73, Fig. 80; 74, Fig. 83). Also present were large number of broken fruitstands and related pieces. These were identified through their bowl forms as well their joins and pedestals (cf. von der Osten 1937: 67-71, Figs. 75 - 77). A nearly complete example of a Red Burnished Fruitstand came to light on the last day of excavation, but has not yet been reconstructed. One fragment of a fenestrated fruitstand was also discovered (Fig. 13, no. 11; cf. von der Osten 1937: 69; Fig 76). Fruitstand sherds were mostly black polished, but many fragments were found with either a red burnished exterior or interior. Other gray and mottled examples also appeared. The fabric for these pieces is usually very fine with little in the way of grit tempering. All pieces are heavily burnished. Fruitstands and fruitstand-style bowls began to appear at Çadır just beneath the surface of the mound, as well as immediately under the Roman/Byzantine fill. At Alişar, on

the other hand, fruitstands appeared in the excavations at a depth of 21 meters and continued to a depth of 29.5 meters (von der Osten 1937: 29, Fig. 32).

Incised-punctated Ware formed another noteworthy element in our 1998 assemblage. Already, in 1994 we had found incised-punctated ware in the upper levels of the deep sounding (Gorny *et al* 1995: 77, also Fig. 20, U and V). This was duplicated in the 1998 season with the discovery of several incised-punctated ware sherds in both squares 770.900 and 770.890 (Fig. 14). One of the pot burials (F 27) was also contained in a knob-rimmed jar with an incised rim (Fig 13, no. 102) giving us a clear indication of where these sherds were originating from. They also link us to levels 12 - 17 from the Alişar Höyük excavations (von der Osten 1937: 57 - 59, Figs 65 - 66) and confirm our impression that the early Alişar assemblage will ultimately be explained through comparisons with the Çadır Höyük sequence. Vessels used for these burials are usually heavy and somewhat friable. They are, however, not without decoration as seen in both the incised-punctated jar and another that seems to have been made to look like a woven basket (above). As with the fruitstands, these pieces were found just beneath the modern surface at Çadır, but appeared at Alişar only after they had reached a refuse layer at the depth of 18 m and, like the fruitstands, ceased to appear at approximately 27 m (von der Osten 1937: 57; also see p. 29, Fig. 32).

As noted, Black Burnished pottery dominated the repertoire from the highest levels of the Chalcolithic to the lowest. Bowls and the tops of fruitstands make up a large percentage of the assemblage. They commonly preserve simple rims, but sometimes display carinated sides. Heavier pottery forms, especially in the more fully exposed Level I have, in addition to the incised-punctated designs, a variety of knobs, lugs, and degenerated ledge handles appeared on the rim (Fig. 12, nos. 20, 68, and 70). Small handles are often displayed on the upper portion of the rims and many vessels have carinated bodies as at Alishar (von der Osten 1937: 53, Fig 62). One beautifully made brown burnished sherd found in 770.890 was decorated with white-painted nested squares, Fig. 13 no. 19) that are reminiscent of designs on the graphite-painted examples found in 1994, and not so different in style or form from other painted examples found at Alişar (von der Osten 1937: 55, Fig 63 no 2 and Pl II no. 5). While the fine Black Ware pottery illustrated at Alişar is present (von der Osten 1937: 60, Fig. 67), no complete vessels have been found. Finally, body sherds of a finely burnished Brown Ware pottery were discovered in the lowest portion of the sounding just before the end of the season. The ware is different from other ceramics and we hope that future seasons will provide a more complete repertoire.

Also found among the rubble in the terrace fill were various fragments of second millennium pottery, including both Hittite and Old Assyrian Colony Period materials. This was not surprising as both periods had already been documented in 1994 (Gorny *et al* 1995). As a bonus, however, we were able to further document the so-called "Dark Age," a period best defined by the recent excavations at Boğazköy-Hattuša (personal communication from Hermann Genz; also cf. Seeher 1998), but previously noted at Çadır in 1994 (Gorny *et al* 1995: 79, Fig. 19F).

Among the most interesting ceramic finds from 770.900 were three fragments of what appears to be a portable hearth displaying zoomorphic figures. Presumably of post-Chalco-

lithic date, the fragments were found among the rock rubble of this area (Fig. 15, also see Fig. 13). The first two portions of the hearth each display a bull's head and are painted with red, yellow and black paint. The third piece is a horizontal part of the hearth which is also painted in the same colors. While they resemble andirons of the earlier ETC period, these two pieces appear to be later, both in terms of context and manufacture. No exact examples are known to the author, though a recent discovery may shed additional light on this fascinating find.⁶

Small Finds

So far, no figurines, stamp seals, or copper objects have come to light. The pendant uncovered in the area of the second burial closely resembles pendants found at Alişar (von der Osten 1937: 82, Fig. 91, nos. c 1934 and c 1665). An interesting artifact found in the midst of this stone rubble was the tip of a Nargila pipe, presumably dating to the Byzantine period.

Worked and chipped stone formed a small but important part of the small finds inventory. The Byzantine terrace produced a number of clearly worked stones that must have come from structures built on the terraces. The Chalcolithic levels, on the other hand, have revealed a number of finely made chipped stone blades and tools, all made of chert or Chalcedony. The numerous pieces of obsidian debitage found in both the deep sounding and the horizontal exposure suggests that we can expect to find obsidian tools in the near future. Again, this early assemblage is very similar to that of Alişar.

Notable throughout the excavation was evidence for the use of basalt for various functions including the grinding of wheat and the pressing of liquids (Fig. 16). A spouted basalt bowl found in 770.890 provides evidence for the pressing of some sort of still-to-be-determined liquid at the site. The lack of any mention regarding basalt usage in the Alişar volume is curious, though several of the grinding stones mentioned may have been of basalt (von der Osten 1937: 87). Still the apparently small number of basalt objects from Alişar seems interesting when compared to our growing number of examples. Since basalt is not native to the area, it may suggest exchange with some nearby area where it is more prevalent.

II. THE 1998 ALIŞAR REGIONAL SURVEY

1998 Survey strategy

The intent of the 1998 survey was to increase our understanding of the settlement pattern in the Alişar region and to look at sites in relationship to their physical environment, as well as to one another. As such, it would serve as a complement to ongoing excavation

⁶ Similar andirons were found this past season by Antonio Sagona at Sös Höyük (personal communication; andirons presented in a paper given at the AIA conference in Washington, D. C., December, 1998).

being carried out at Çadır Höyük. Both enterprises were designed to investigate cultural change in the Kanak Su valley, especially as it related to the rise of social complexity in ancient Anatolia. While the original inspiration for the project grew out of a desire to investigate the origins of the Hittite state, the peculiarities of excavation have focused our attention on two disparate periods, the Chalcolithic and Late Classical. The following report briefly summarizes our results.

From previous surveys we knew that the Alişar region contained three major physiographic types: river valleys, ridges, along with uplands and mountain tops. Previous survey also showed that a relatively mountainous terrain divided the landscape into a number of valley catchments. During the 1998 field season, our intent had been to sample all three of these physiographic provinces, placing an emphasis on those areas that had not been investigated in earlier seasons. During the 1993 season, the immediate catchment of Alişar Höyük itself had been investigated. In 1994, those areas of the Kanak Su drainage most immediately threatened by the rising waters of the Gellingüllü Dam were surveyed (cf. Branting 1996). With this in mind, we decided to focus our 1998 efforts on catchments more distant from the Kanak Su and its spreading reservoir.

After studying the results of surveys by both von der Osten and the 1993-94 survey teams, we decided to make the northeastern sector of the Alişar survey region a prime area of investigation because it showed a lower density of known sites. We, therefore, hoped to examine the catchment of Salur Höyük (See Fig. 1), a mounded multi-period site situated on a minor tributary of the Bağrgan Özü in the Eğri Özü drainage. The site itself is nestled among the northern slopes of Çomak Dağ, overlooking a broad plain. The catchment of this prominent site includes all three of the major physiographic types characteristic of the region: a broad river valley, upland mountain slopes, and a prominent ridgeline. We hoped to be able to compare settlement data from this less well-known area with the information gathered from previous seasons in the western part of the survey area. We had similar hopes for Çat Höyük on the upper reaches of the Kanak Su and on the southern side of Çomak Dağ. However, within these topographic limitations, and given the continual rise of reservoir waters, it was decided to sample those river valleys most likely to be inundated in the immediate future. These included the section of the Eğri Özü valley between Çadır Höyük and Yazılıtaş, and a narrow valley just upstream from the end of the reservoir in the Kanak Su valley near the town of Büyük Ören. Fears regarding the imminent danger faced by these two river valleys were well-founded as water from the reservoir now lapped against the south slope of Çadır Höyük (Fig. 18) and was filling the valley just beyond the mound itself.

Within these parameters, survey areas were determined primarily by the local topography. With the imminent rising waters in mind we concentrated on valley floors and flood plains. Our survey team consisted of five individuals, including our Turkish representative. Team members spaced at 30 m intervals walked parallel transects. While these transects meandered to some degree and were adjusted to exploit the most favorable surface visibility, major zigzags were avoided. While artifact densities were noted along the transect, only diagnostic ceramics and lithics were collected for later identification and comparison. Sites were determined on the basis of relative artifact density, rising above the "background"

scatter of artifacts resulting from manuring by neighboring villages. Once a concentration of artifacts was identified, its limits were determined, the site was photographed, representative diagnostic sherds were collected, a Global Positioning System (GPS) reading taken, and a recording form completed.

A less systematic survey was conducted near the end of our survey season on the lower terrace at Çadır Höyük, on the perimeters of the reservoir west of Çadır, and at Salur Höyük. The less rigorous nature of this work resulted primarily from the lack of time necessary for a more thorough exercise at the end of the survey season. This *ad hoc* approach contrasted with the more systematic and highly successful work in the Eğri Özü valley and at Büyük Oren, areas which faced more immediate danger. The plan to attack more vulnerable areas first was a conscious decision which proved to be correct. Other areas, including the Salur and Çat Höyük catchments, as well as most of the upland areas, are reserved for future investigations.

1998 Survey methods and results

The initial phase of the 1998 survey was spent in the Eğri Özü Valley upstream (east) of Çadır Höyük. The reservoir extended about a kilometer east of the mound towards the village of Yazılıtaş. Yazılıtaş is located just west of the confluence of three streams resulting in a somewhat wider expanse of valley. Two mounded sites, Gökçe Höyük and Büyük Höyük were known to lie in this area. Thus a survey of this area would allow us to investigate the relationship of mounded sites other than Çadır Höyük to their surrounding territories. These larger sites were in no danger of inundation, so we began at the edge of the reservoir and worked our way east. The valley floor at this point was about 1 km wide. The Eğri Özü winds along the southern edge of the flood plain. The fields associated with Yazılıtaş are laid out in narrow strips running perpendicular to the stream, presumably to prevent any particular plot from monopolizing the best land nearest the river. The hills rising on either side of the valley were covered with stony soils, and although they have been cultivated in the past, they were not sown in 1998. Local villagers indicated that these areas now are primarily used for herding. The fields were in various states of growth and harvest. Crops observed included wheat, lentils, chick peas, sugar beets, and occasional patches of maize and beans. This resulted in variable visibility of the ground surface. The harvested lentil and chick pea fields were quite clean and had close to 100% visibility. The beet fields, while still being worked, had good visibility, with extensive areas of bare ground between the individual beet plants. Visibility was good except where foliage was thick. The wheat fields were more variable. Where the crop had been harvested and the straw collected, ground visibility was quite good. In other fields the wheat had been harvested, but straw remained, resulting in poor visibility. In some cases the crop had been beaten flat, presumably by heavy rains or livestock. These fields remained unharvested, and the ground surface was not visible at all.

Survey tracts were walked across the valley at 30 m intervals. Each transect was roughly a kilometer in length and while running roughly parallel with field boundaries, normally included a number of fields sown in different crops. While our method gave survey-

ors freedom to meander somewhat in order to maximize ground visibility in these threatened areas, large zigzags were avoided. The meandering allowed each surveyor to traverse the field segments where ground visibility was best. On each transect the ground surface was examined for artifacts, architecture, distinctive soil changes and any other indicators of a site. In this area, sherd concentrations were primary site indicators. Sherd concentrations were noted by the surveyors, and their boundaries established and flagged. Once the position of a concentration was plotted and photographed, a site form was filled out and a representative sample of sherds were collected and brought to the dig house for identification.

As might be expected in fields close to a village, individual sherds, perhaps the result of manuring (cf. Wilkinson 1982), were common occurrences. A concentration above this background was deemed necessary before an area was designated a site. A sample of the dispersed scatter of sherds was also taken, identified by transect and brought to the dig house. Apart from a few second millennium Hittite sherds (a pilgrim flask and a handle) found in Transects 11 and 12 and a number of lithic shatter fragments, almost all finds were medieval. These include a number of green-glazed Seljuk sherds as well as yellow/buff Islamic wares. Apart from the general background of sherds, attributed to manuring, there were two concentrations of sherds that seemed to indicate sites. Site 98-2 was encountered in Transect 13. Located in a beet field, the scatter was confined to a rough square 43 x 45 m. area and was associated with a square bare patch in the beet field suggesting the presence of structural remains below the surface.

Site 98-3 was a much larger scatter. At this site sherds were scattered over a 186 x 93 m area cutting across the northern ends of Transects 23 - 29. The scatter was not uniform, perhaps indicative of activity areas, but may also be the result of modern plowing. All the datable sherds collected were medieval in date. Green-glazed Seljuk sherds were conspicuous, perhaps dating to the 11th Century [AD]. This scatter, located close to the modern village of Yazılıtaş, most likely indicates a medieval village or farmstead at this location. Finds from Site 98-3 apparently support previous results from this part of the survey area that show an occupation of the valley between Çadır Höyük and Yazılıtaş dating primarily to the medieval period, though the survey did yield some signs of a Hittite presence.

Site 98-1 was also located in the valley of the Eğri Özü, and was discovered during the less formal survey conducted west of Çadır Höyük. In this area, the valley floor has already been inundated. This was discovered by walking the shoreline west of the mound. The site consisted of a small scatter of sherds and lithics. Fluctuations in the lake level had left a layer of silt over most of the site, but in a few places, artifacts were discernible. A blade and a flake were collected along with two identifiable sherds. These included a post-Phrygian Iron Age sherd, as well as a second Millennium sherd.

Site 98-4 was discovered when exploring the farthest extent of the reservoir up the valley of the Kanak Su itself. This part of the valley had narrowed considerably, to less than 100 m in width. The Kanak Su naturally meandered through the valley, but has recently been channeled in connection with the construction of an earthen causeway and concrete culvert which allow a dirt road to cross the valley. Just upstream of the causeway, in a recent plantation of fruit trees north of the stream, a small scatter of medieval sherds was encountered.

A large mound (Site 98-5) is located across and somewhat upstream from Büyük Ören and situated at the confluence of the Kanak Su and one of its northern tributaries.⁷ The tributary is spring-fed but had little water in it during our visit. The mound is situated on a natural rise extending from the uplands toward the Kanak Su. The arroyo formed by the tributary stream affords an unobstructed view of Sivri Dağ and a row of tumuli on a distant ridge line. There seemed to have been some *ad hoc* excavation pits as well as animal burrows on the top of the mound, resulting in a scattering of sherds both on the top and the sides of the mound. Lichen encrustations on many surface sherds suggest that this site has not been recently sampled.

Elevated sites overlooking a water source have been suggested as favored settlement locations as early as the Neolithic in Central Anatolia (Todd 1980; Esin 1989; 1991). Büyük Ören Höyük, overlooking the Kanak Su, proved no different. Indeed the surface collection yielded a chaff-tempered Chalcolithic sherd as well as an early polished (EB II?) red ware sherd. That the site was occupied in the second millennium is indicated by a number of Hittite sherds found on the sides and the top of the mound. The Iron Age is represented by Phrygian and Galatian-like sherds and, not surprisingly, the site continued to be occupied through the Hellenistic and Roman periods.

Salur Höyük was also revisited and informally sherded. As at Büyük Ören, Salur is located on naturally high ground overlooking a spring-fed water source. In fact, much of what appears mound-like at the site proves, on closer examination, to be a natural hill. Villagers have been actively quarrying the eastern end of the mound which rises impressively over the surrounding terrain. Gravel taken from the site is being used to construct the bedding for a new road in the area. The amount of cultural deposit on the high end of the hill appears to be less than 5 meters. As in the 1994 season (Branting 1996: 153) EB III pottery was recovered from Salur as was a stone blade fragment. Other periods represented on the surface included Old Assyrian, Hittite, Phrygian and later Iron Age. These remains suggest that Salur was a significant site through several periods, but it must have also had a significant number of villages related to it during those periods. One of our primary goals for future seasons is to fill in the settlement map for this area by extending our survey into the surrounding catchment area.

Finally, Site 98-6, an impressive site high on the eastern slope of the heights directly across the Kanak Su from Çadır Höyük was briefly explored. This was one of the few upland sites we have investigated and consisted of a multi-roomed structure whose foundations were composed of large cut stones. The structure is apparently rather late in date since it appears to be built against a large tumulus located on the eastern ridge of the peak. The mound appears in Fig. 21 with the tumulus represented as a small rise on the left side of the height. Site 1998 - 6 is just to the left of the rise and extends to the edge of the flat area before the mound begins to slope down. Its strategic situation overlooking the valleys below and alignment with other settlements in the area suggest that it may have functioned as a communication node during

⁷Also cited by Branting (1996: 148) as being near Akbucak.

its lifetime, or perhaps even a guard post overlooking the junction of the Kanak Su valley with the Gübören Dere which connects Yazılıtaş with Alişar. The ground around the site was lichen covered and only a few pieces of nondescript pottery were in evidence on the surface. It may be, however, that the site was connected with Kerkenes Dağ which is clearly visible in the distance (Fig. 3), directly behind Çadır Höyük. Further investigation of the site is scheduled to take place in 1999.⁸

III. A PRELIMINARY INTERPRETATION OF THE COMBINED DATA

The Late Classical Period

The interpretation of Çadır Höyük's Chalcolithic period remains has now become the primary focus of our work in the Kanak Su Basin, but many other questions remain to be addressed, including the purpose of the rock retaining wall built over the Chalcolithic remains (above).

The purpose of the terraces at Çadır Höyük is still unclear, though they must have been built for either fruit production or architectural construction. While grapes are grown on similar terraced lands in the vicinity of Yazılıtaş, I am currently in favor of the latter theory, as rubble on top of the terraces is composed of large amounts of building tiles, bits of columns, large clearly fashioned stones, and other architectural elements. In addition, the 1994 step-trench produced evidence of slope dwellings dating to a variety of periods (Gorny *et al* 1995: 74 - 76). Finally, while these terraces could have served as the bedding for some sort of fruit production such as grapes or fruit trees, little in the way of agricultural evidence supports this theory.

When constructing these terraces, the architects apparently cut large step-like exposures into the side of the mound in order to accommodate the construction. Then, they apparently built the terrace walls and laid several layers of clay as the base of the terrace, filling the cavity with rock and other available materials. This appears to be similar to terrace construction in other parts of ancient Iran and Anatolia (cf. X. de Phenol 1966). The thick fill securely sealed the Chalcolithic deposits for later investigation, though the terracing seems to have destroyed the material remains from each of the other periods between the Chalcolithic and Byzantine levels. No structural evidence exists, at this point, to verify the presence of domestic construction on top of the stone fill, but the remains of other still existing terrace walls can be observed on the western slope of the mound, and these structures may later provide additional clues as to the purpose for which this terrace wall was intended.

Based on the evidence now in hand, we are conjecturing that the terrace walls were built sometime during the Roman period. Construction may have taken place at a time when the Roman settlement also expanded north across the terrace, evidence of which we saw in

⁸ Fig. 3 (above) was taken from Site 98 - 6.

1994 (Gorny et al 1995: 76). This expansion probably lasted through the second century when the *pax Romana* apparently afforded inhabitants of the land the luxury of moving beyond the security of the mounded sites (see below). The relative peace of the period apparently flourished until the mid-third century when increasing militarism led to confrontations with both the Goths and the Sassanians, conflicts that left Roman Anatolia on the verge of political and economic collapse. The whole Kanak Su region must have faced serious threats at this time as the Sassanians conducted raids at least as far north as Caeseria in Cappadocia and Sebasasteia in Pontus (Mitchell 1993: 238). The effect of these *razzias* on Çadır itself remains to be seen.

The date of Çadır's demise remains to be determined. Part of the rubble we uncovered in 1998 appears to have come from the Byzantine fortification wall that once circled the crest of the mound (above, also cf. Gorny *et al* : 72-73; Fig 13). The segment of wall foundation located just above our excavation area has disappeared and a large chunk of cemented wall found in the excavation area probably came from that portion of the wall. From there, it must have either fallen or been pushed down the slope, lodging against the terrace structure. The remainder of the stone fill in the excavation area appears to be tumble originating from the same fortification wall and/or buildings that once occupied upper portions of the slope. Materials from the rubble parallels evidence from 1994 (Gorny et al 1995: 80) and suggests that the latest occupation of the mound may have occurred at a time of urban decay around the end of the sixth or beginning of the seventh century AD (Gorny et al 1995: 72). In this case, the end would have come in conjunction with the sudden occurrence of various climatic catastrophes including drought and earthquakes which coincided at that time with the period's most significant political and military events (Allen and Jeffreys 1996).

By the 8th Century, Çadır had apparently ceased to exist and the Kanak Su region, now part of the Charsianan Theme, found itself not far from the Abbasid frontier and as a borderland, was subject to raids and counter attacks. Despite such problems as urban decline and foreign raiders, the Charsianan Theme remained in Byzantine hands until the 11th Century, when the Seljuks, fresh from their victory at Manzikert in 1071 occupied most of central Anatolia. Though the Seljuks established capitals at Konya and Iznik, some have claimed that Central Anatolia was plundered and "nomadized" in this period (von der Osten 1937c: 193). Our investigations in this area of central Turkey are only beginning to shed light on a previously underdocumented period. The green-glazed Seljuk pottery found scattered throughout the valleys around Çadır is probably not earlier than the 12th century, and indicates an Islamic presence in the area that is yet to be manifested on the mound itself. The discovery of an early thirteenth century Seljuk coin in the vicinity of Çadır during the 1994 survey also fits into this general pattern (Fig. 17), but whether these materials belong to nomads or settled inhabitants is still unclear.

Thus, at Çadır, we seem to have Late Roman/Byzantine settlement that exists up to the end of the sixth century, a period of abandonment, and then 12th - 13th century rural Islamic settlements. But, what of the centuries in between? Urban decay? Depopulation? Nomadism? While town life may have experienced a sharp decline in Anatolia after the upheavals of the early Middle Ages (Whittow 1996: 89 ff.; cf. Cameron 1993: 152 ff), we currently have little

in the way of reliable archaeological evidence to tell us what was happening in the Kanak Su -Eğri Su Basin. Did the area take part in the revival of town life that began to occur in the 10th and 11th centuries, or did it remain an exception to this urban pattern as in earlier Roman times (Mitchell 1993)?

Not surprisingly, the pattern at Çadır is similar to what von der Osten found at Alişar, with Late Roman/Byzantine materials dominating the material culture up to the end of the 6th century (von der Osten 1937c: 126 - 204; Waage 1937). A cessation of settlement in the seventh century is followed by a gap and then the first appearance of Islamic materials no earlier than the twelfth century (von der Osten 1937c: 126; Riefstahl 1937). More than likely, the Kanak Su - Eğri Su Basin was given over to the system of large landed estates that dominated this part of the plateau in both Roman (Mitchell 1993: 93 - 98) and Byzantine (Harvey 1989: 41, 78) times. Admittedly, the information is sparse and only beginning to come in, but as the data becomes more abundant, we believe that we will be able to make significant comparisons between this and other periods of the region's history, and that the later Ottoman pattern will be particularly informative.⁹

The Second Millennium and Anatolian “Dark Age”

Numerous pieces of Old Assyrian Colony Age pottery were also observed in mixed materials of the Late Roman terrace and related tumble. This suggests a role for Çadır Höyük in the Old Assyrian trade network that has been reported only briefly in the past (Gorny *et al* 1995: 71, 79). The site apparently represents one stop on the route that took Old Assyrian trade goods from Kültepe to Alişar - Çadır - Kuşaklı (Sorgun) and ultimately on to Boğazköy. Plans for 1999 include the opening of a step-trench directly above the current excavation area, the purpose of which will be to isolate later materials and to provide a means of following Anatolia's transition from a Balkan oriented entity (Gorny 1995b) to one dominated by a central Anatolian perspective. In the meantime we continue to make strides toward understanding the Historical Geography of the region during the second millennium through a synthesis of the archaeological and literary materials (Gorny 1995b, 1996c, 1997).

The presence of ‘Dark Age’ pottery had been observed at Çadır Höyük first in 1994 (Gorny *et al* 1995: 79, Fig. 19F), but additional pieces were noted by Hermann Genz on a visit to the site this year. These important sherds clearly place Çadır Höyük among the growing number of central Anatolian sites where it can now be shown that settlement continued immediately after the end of the Hittite Empire (Seeher 1998). Thus, we may also be on the verge of finding answers regarding previously posed questions about the disposition of central Anatolia's population after the fall of the Hittites (Gorny 1989: 92), as well as answers

⁹ The Ottomans conquered the area in the latter part of the 14th century. Our survey has not dealt as yet with Ottoman sites in detail although an Ottoman mill was visited just outside of this season's survey area suggesting a pattern not dissimilar to that of the Seljuk. In addition, the Ottoman pattern may prove instructive because there are reasons to think that “the patterns of settlement and rural exploitation were broadly similar in Roman and Late Ottoman times” (Mitchell 1993: 242).

to questions regarding the origin of “Phrygian” culture in the region.

The Chalcolithic Period

Çadır appears to have been a significant settlement during the Chalcolithic period. Building remains of that period had stone foundations and earthen floors but, as of now, have shown no evidence of plaster flooring within the structures. Mudbrick presumably covered the foundations but only a small amount of mudbrick was found during the excavation season. In one case, a wall stub in 960.890 preserved four courses of yellow bricks separated by gray mortar. Burned mudbrick *detritus*, however, was scattered around the ruins, especially on their southern side, and may preserve evidence of a fiery end for the Phase I settlement. Additional burning could be seen on the interior portion of the stone “enclosure wall” of Square 770.900. The four very disturbed and disarticulated child burials found beneath the floor levels of 770.890 may provide additional evidence for the period. Two other child burials found in Square 770.890, near the area of the sounding extension bring to six the number of child burials found in close proximity to each other. No adult burials were found. Although no clear floors were found in any of the areas we excavated, the upside-down black polished cup and plates discovered sitting on hard-packed earth near Wall F 22 (see above) presumably gives us the floor level of the building complex with the burials resting beneath. The fact that the tops of several burials had been lopped off, probably by the builders of the Byzantine terrace structure, suggests that some extent of the Level I area had been leveled in preparation for the construction of the terrace retaining wall.

The plaster basins built next to the Phase I houses of the Chalcolithic (above, Figs. 9, 10 and 11) remain unexplained. They may be water basins, but if so, where would the water come from as there are no springs on the mound to feed them. If they did carry water, the water either would have had to be conserved from rainfall, or transported up the mound, both of which seem somewhat unlikely at this point. There are also no egress or entry points for water to enter or drain from the construction, though the lack of full excavation may mean that such elements remain to be uncovered. Ritual purposes remain a possibility, but no evidence exists that this was a cultic area. They could just as well be storage units but paleobotanical studies performed by Miriam Chernoff on flotation samples from the partially excavated basin in 770.890 showed no signs of agricultural storage. Furthermore, the structures appear to be too wide for storage and would have been difficult to keep adequately covered. A final suggestion is that they are meant to be used for the pressing of either oil or wine, though the only evidence is a single grape pip found in the plaster extracted from the first basin.¹⁰ An explanation of these enigmatic constructions remains a future goal, but may provide us, alternatively, with evidence of either subsistence or ritual at the site. The fact that none of these basins have yet been fully excavated provides hope that answers may still be forthcoming when the basins are fully exposed in coming seasons.

¹⁰ A similar plastered basin used for the processing of grapes was found at Titris Höyük in 1994 (Algaze *et al* 1995).

After such a short period of investigation, it is difficult to put our preliminary findings into any sort of convincing context. At this point, however, the most reasonable explanation of our 1998 work is that the excavated area represents a simple domestic area composed of houses and associated structures built just inside the enclosure wall of a much broader fortified settlement. The fact that several pieces of slag were found in the area, along with a variety of basalt grinding stones, leaves open the possibility that some sort of economic activity was being carried out here. The exact nature of this area, however, remains to be explained in future seasons.

On a broader scale, three seasons of survey and excavation in the Kanak Su Basin allow us to preliminarily conclude that Çadır existed as one of several independent centers of the Chalcolithic culture in the region (Branting 1996: 151). Whatever relationship these sites had to each other is unclear and whether the enclosure wall of Çadır's second level is a feature common to these settlements, or indicates some form of political priority for Çadır can not be ascertained at this moment.¹¹ The settlements are all located within the river valleys of the region, and although the settlements were separated by long distances and the region's topography, some form of communication clearly took place as indicated by the commonalty of Chalcolithic culture in the region. While this commonalty can be seen most clearly in comparisons between the materials from Çadır and Alişar, it can also be observed in the surface remains found at other smaller sites in the basin such as Büyük Oren, Küçük Höyük and Otlu Höyük (site 43). Further comparisons can also be observed in the Chalcolithic remains from Boğazköy (Hauptmann, 1969; Parzinger 1993; Shoop 1998).

The economy of the Çadır Chalcolithic settlement was based on agriculture with wheat and other grains representing the basic element in its subsistence pattern. Located in a prime grain producing area, there can be little doubt that grain would have served as the basis of its subsistence since very early times. We hope that Chernoff's paleobotanical studies will provide evidence as to whether or not this pattern may have been altered in later times. Her preliminary observations (1996: 165) suggested a reliance on Emmer Wheat from the earliest level of the site to the latest. There was, however a varied selection of legume and cereal crops that appear to be suited for a dry-farming, winter growing regimen. The variety of species may have offered protection against periodic droughts which can plague the central Anatolian plateau (Gorny 1995c: 138 - 147).

Agriculture was almost certainly augmented in the subsistence pattern by hunting and stock-rearing. Lauren Bigelow's preliminary studies indicate a fairly typical Near Eastern pattern of stock-rearing in which domesticated sheep, goat, pig and cattle apparently all represented with gazelle being noted as a wild source of meat. The preliminary nature of the sample, however, precludes any definitive statements for the time being.

One interesting surprise is the frequency of turtle (*Trionyx euphraticus*) in the overall

¹¹ Antonio Sagona also reports (private communication) that a Chalcolithic wall has also been uncovered at Sös Höyük in north-central Turkey.

sample.¹² In fact, a complete turtle *carapace* was found just above the Level II fortification wall. Whether these results mean that turtle was looked on as a suitable source of food or was simply employed for other purposes remains to be investigated. It may be, however, that a significant representation of turtle in the archaeological deposit signifies a different environmental situation in which an enlarged Kanak Su played a more significant role in the site's subsistence pattern during antiquity. The curious situation of Çadır's Chalcolithic settlement, roughly halfway up the mound's southern slope, as well as earlier evidence of water-laid sediment in the lower portion of the mound (Gorny *et al* 1995: 75), may provide evidence of a wetter environment in antiquity. In the future, both pollen cores and flotation samples could provide us with definitive information regarding the validity of this hypothesis.

One suspects, however, that despite the importance of agriculture and horticulture, exchange may have played a role in Çadır's economic paradigm. Branting has already mentioned internal dynamics within the cluster of Chalcolithic sites in the Kanak Su Basin, as well as the important issue of markets (1996: 151-2). Obsidian debitage from the Çadır's Chalcolithic levels yields some evidence for such a prehistoric exchange network extending, at least, as far as the obsidian fields around Konya (Cann and Renfrew 1964; Dixon, Cann, and Renfrew 1972; Renfrew and Dixon 1977; Benedict *et al* 1980; Yener 1982). Additional evidence for exchange may derive from the basalt tools found at the site (above), especially since the stone is not native to the Çadır area. These discoveries suggest that the site's inhabitants participated in an exchange network that could have been an antecedent for the later well documented Old Assyrian exchange that Çadır's inhabitants seem to have engaged in during the Middle Bronze Age. While more evidence of this exchange is sure to be found in subsequent seasons, it seems clear that Çadır's favorable situation made it a prime site for settlement throughout the region's long history.

A final consequence of Çadır's apparently favorable location was probably the accumulation of goods within the settlement itself. While solid evidence for such an accumulation has only begun to emerge, the enclosure wall constructed around Çadır's second Chalcolithic level hints at, not only the accumulation of goods, but the fear that others might try to pilfer those goods. The ability to conceive of and build such a wall also suggests the crystallization of social stratification within the community itself and indicates the rise of social complexity at an early point in central Anatolia's historical development. The burning of the site may well indicate that the inhabitant's fears were well-founded and that their efforts to repel such hostile elements were not totally successful. While Level I is the last documented Chalcolithic period settlement at Çadır Höyük, material remains representing

¹² Both carapace and long bone fragments of the terrapin *Trionyx euphraticus* were recovered. The Chalcolithic sample contained 2 carapace fragments and a complete carapace representing 1.78% of the assemblage. The terrace mixed fill from Squares 770.890 and 770.900 contained 100 carapace fragments and 5 long bones (one with butchery marks), representing 19.93% of the assemblage. A common inhabitant of river, streams, and canals this reptile might prove to be an indicator of Çadır Höyük's local environment, but what cannot be doubted is the importance of adequately analyzed faunal samples in clarifying Chalcolithic subsistence practices in Central Anatolia.

nearly every other historical period are proof that its location continued to act as a lure for other settlers in succeeding generations. Clearly we have just scratched the surface of a very important site. We believe that future years of investigation will allow us to further document the role it played in the development of Anatolia's historical development.

Acknowledgements

I would like to thank various people for the roles they played in making the 1998 excavation season a successful one. In the first place, many thanks go to Mr. Ömer Çelikbeş, mukhtar of our host village, Peyniryemez. We also owe a debt of gratitude to the administrative personnel in Sorgun. That includes Mr. Mustafa Dünder, the kaymakam of Sorgun, and especially, Mr. Kamil Polat, Director of the Sorgun öğretmenleri who took special pains to make our time in Sorgun as comfortable as possible. We are also grateful to Mr. İ. Fuat Uğur, the vali of Yozgat Province and Mr. Musa Özcan, director of the Yozgat Museum for their assistance in facilitating the many details necessary to successfully engage in a project of this size. In Ankara, The American Research Institute in Turkey, through its director Ms. Toni Cross and its assistant director, Ms. Cennet Kose, has provided us with home-away-from-home for many years and we continue to be very appreciative for their efforts on our behalf. Special thanks goes to Taylan Bilgel who was a staunch friend of the excavation and to the Minister of Culture, Mr. İstemihan Talay, who helped facilitate our permit. Finally, our government representative, Ms. Şengül Salmar is to be thanked for all the help she provided throughout the summer, not only administratively, but in the field as well.

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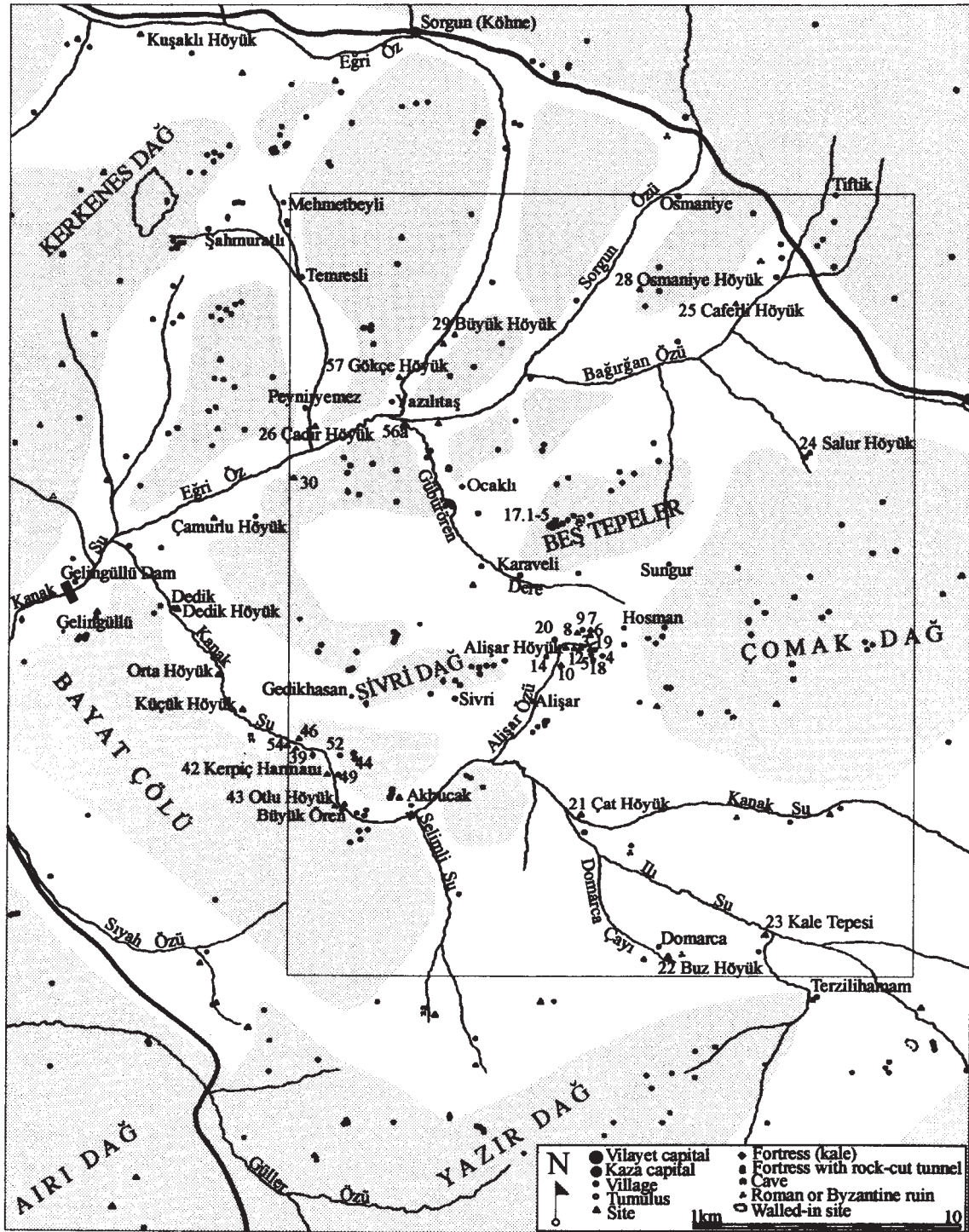


Fig. 1. Map of Kanak Su-Eğri Su region showing the Alişar Regional Survey area.

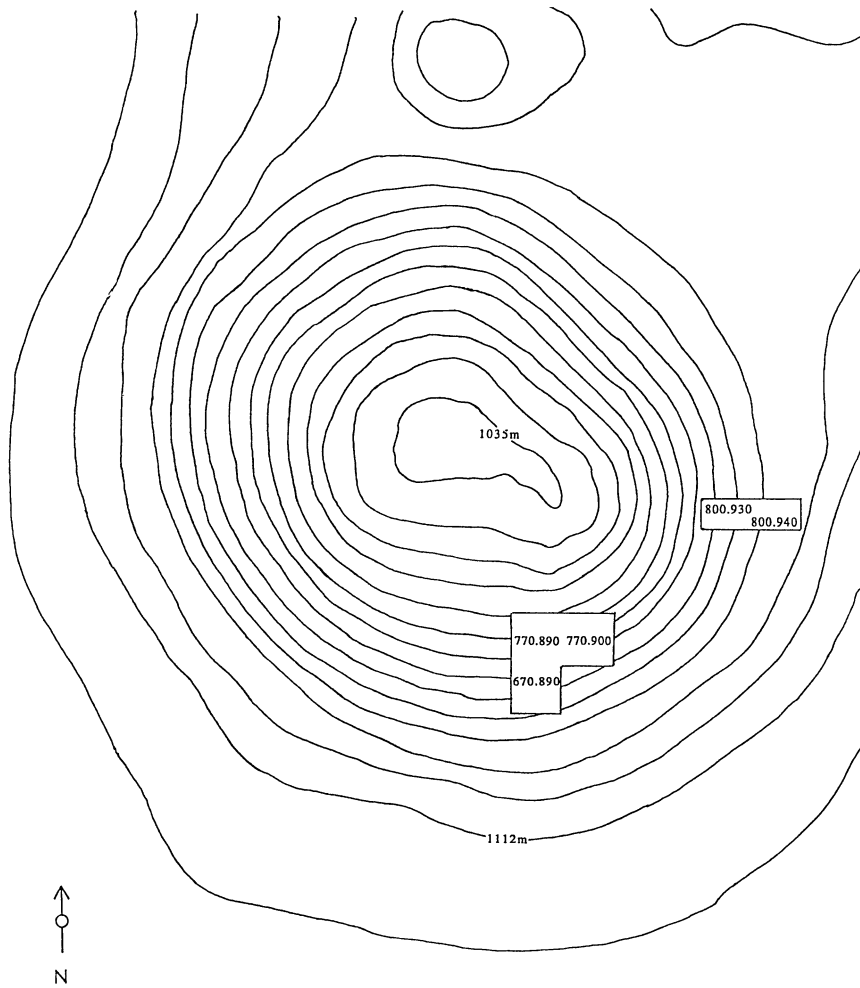


Fig. 2. Topographic map of Çadır Höyük showing 1994 and 1998 excavation areas.



Fig. 3. Çadır Höyük (center) in the Kanak Su Valley.



Fig. 4. View of the Chalcolithic enclosure wall.



Fig. 5. Chalcolithic level I child burial.



Fig. 6. Chalcolithic level I plaster basin (cut by 1994 sounding in foreground).

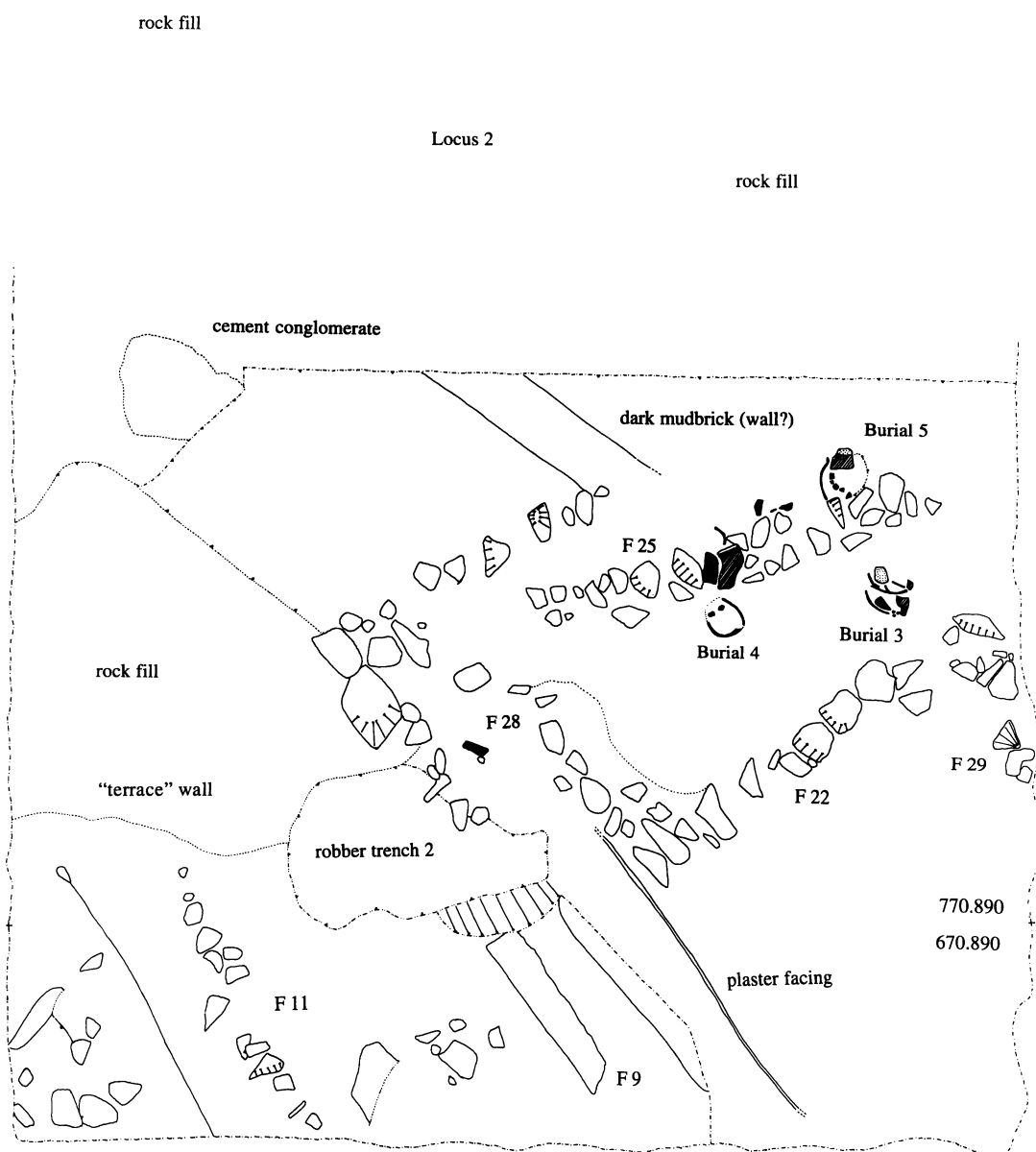


Fig. 7. Square 770.890.

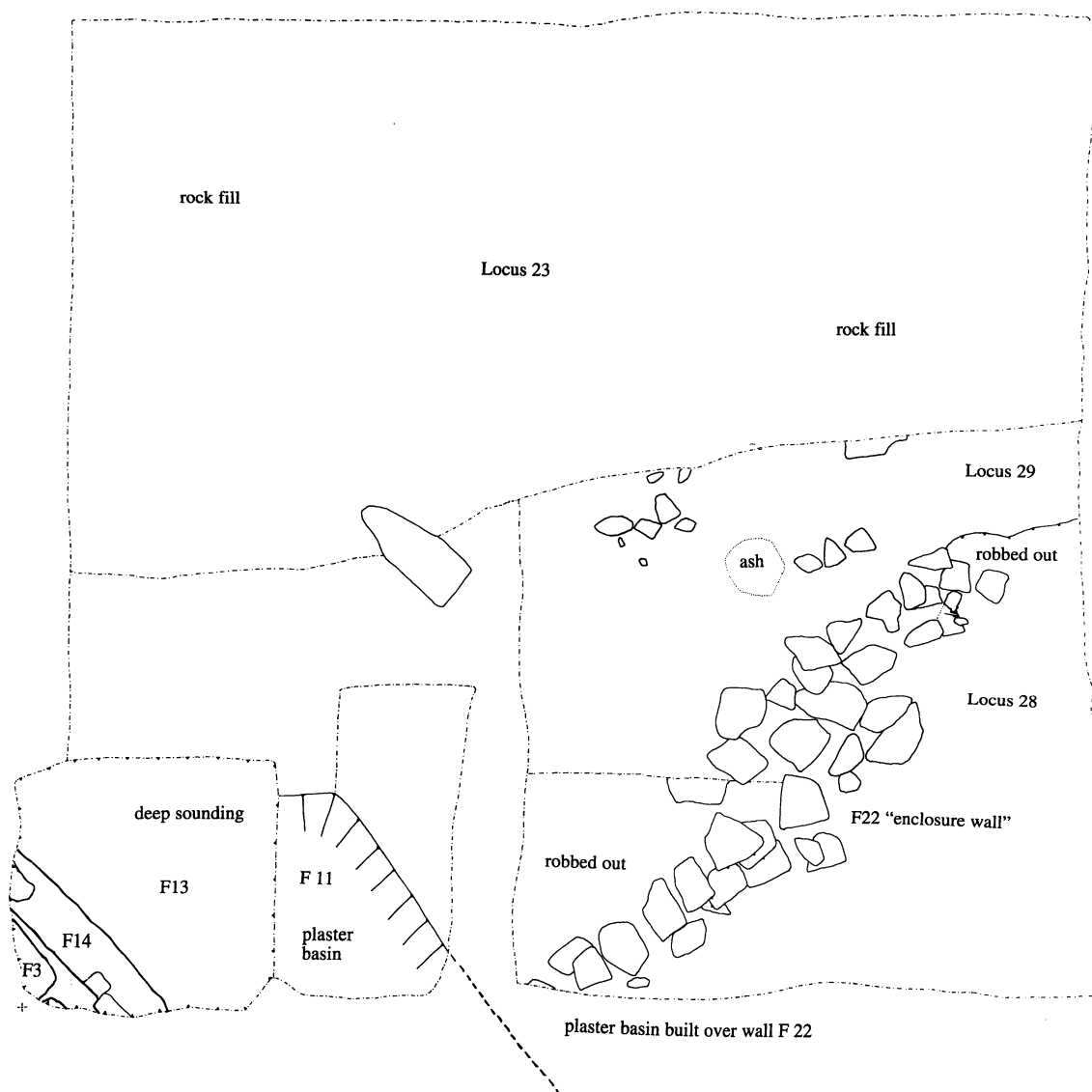


Fig. 8. Square 770.900.



Fig. 9. Wall F 14 (upper left corner of trench) in the deep sounding.



Fig. 10. Level I structures with face of plaster basin appearing at far right of photo.

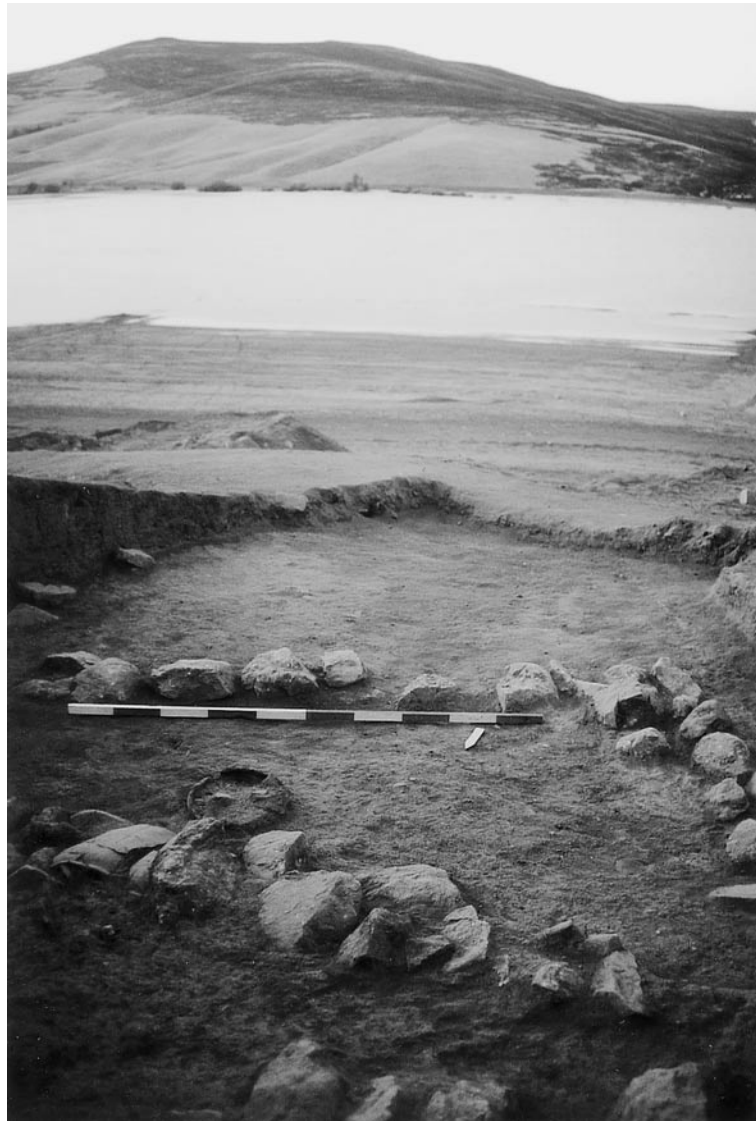


Fig. 11. View of Chalcolithic level I settlement looking south.

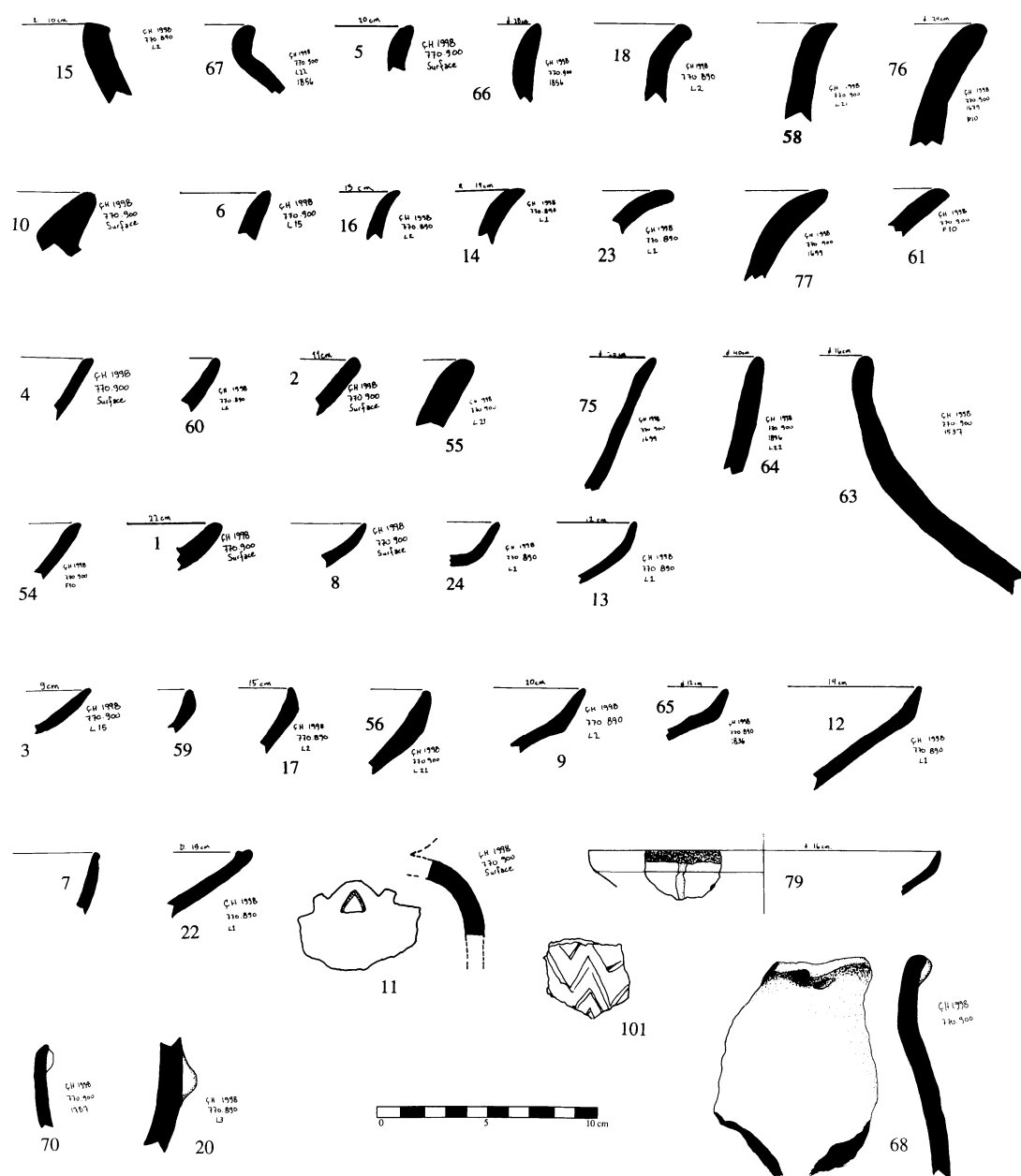


Fig. 12. Chalcolithic pottery from Çadır Höyük 1998.

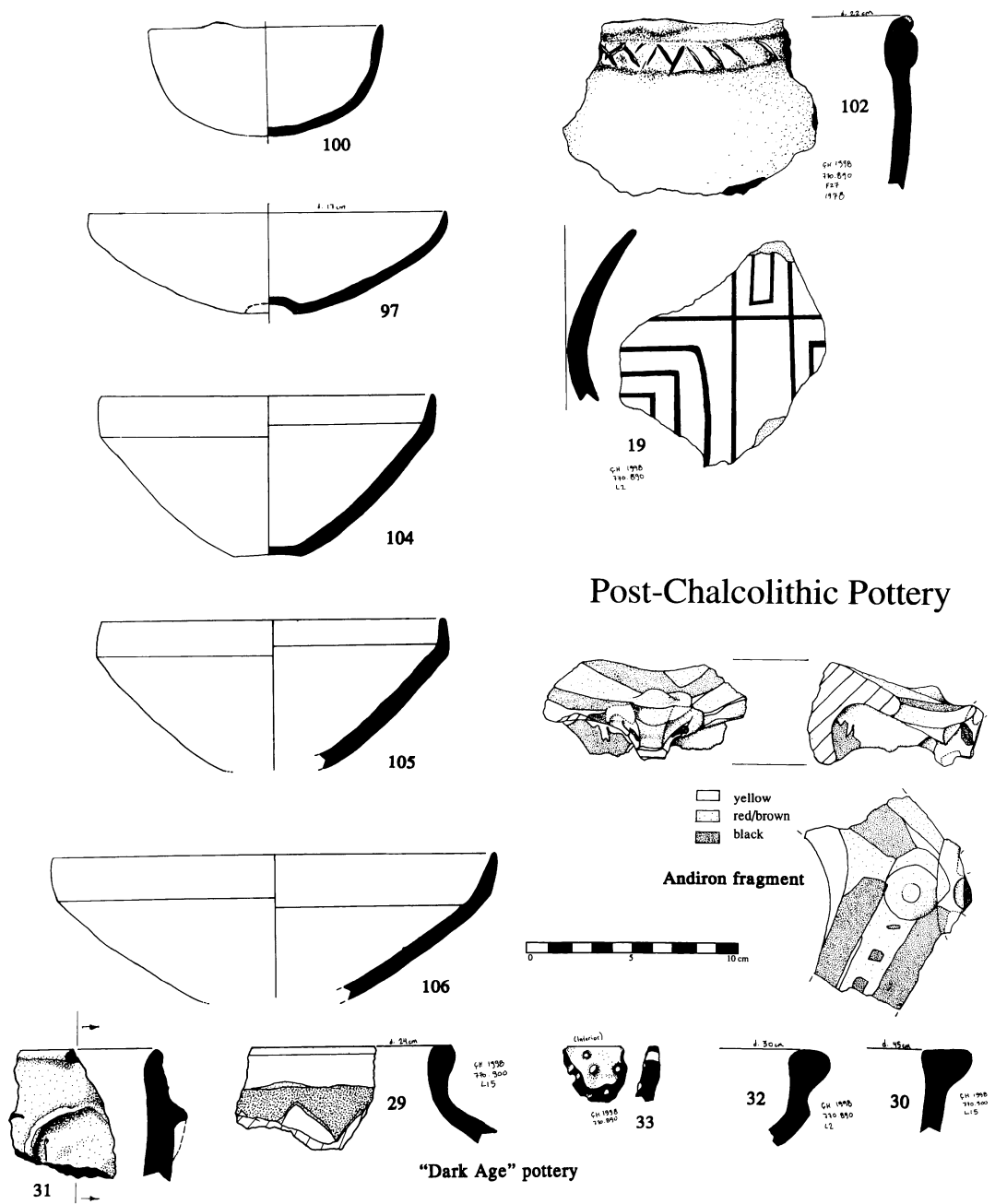




Fig. 14. Fenestrated fruitstand sherd (bottom middle) with incised-punctated wares.



Fig. 15. Andiron (?) fragment depicting bull's head.



Fig. 16. Basalt implements.



Fig. 17. Thirteenth Century AD coin found near Çadır Höyük.



Fig. 18. Reservoir lapping against south slope of Çadır Höyük.

EARLY BRONZE AGE URBAN STRUCTURE AT TİTRİS HÖYÜK, SOUTHEASTERN TURKEY: the 1998 Season

Timothy Matney, Guillermo Algaze and Steven A. Rosen. With Contributions by Sumru Aricanli and Britt Hartenberger

INTRODUCTION

This report describes the results of the seventh season of archaeological fieldwork at the small Early Bronze Age (thereafter EBA) urban center of Titris Höyük, situated some 45km north of Sanliurfa, in southeastern Turkey.¹ Earlier research at the site shows that it grew to urban size initially in the Mid-EBA (ca. 2500-2400 B.C.) and that it collapsed in the Late EBA (ca. 2400-2300/2200 BC) (see Algaze et al. 1996: 132 for radiocarbon results). As the morphology of the site has been extensively discussed in previous reports (Algaze et al. 1996; Matney and Algaze 1995; Matney, Algaze and Pittman 1997), there is no need to discuss it here again in any detail. Suffice it to say that the site consists of an Acropolis or high mound surrounded by a much more extensive lower city area, which, in turn, can be divided into a Lower Town area extending to either side of the central high mound and following the course of the Tavuk Çay (see Figure 1) and a more extensive Outer Town area which extends due north of high mound and Lower Town. At the eastern edge of the Outer Town, a north-south defensive wall was built to create a fortified settlement, thus delineating the easternmost

¹ Excavations were conducted between July 14 and August 26, 1998 under the direction of Guillermo Algaze (University of California, San Diego) and Timothy Matney (University of Akron). Field personnel for the 1998 season were: Sumru Aricanli (Museum of Natural History, N.Y.), Willy Becker (Whitman College), Gülay Dinçkan, Francesca DeLillis (University of Rome), Britt Hartenberger (Boston University), Nicola Laneri (University of Rome), Shannon Murphy (Whitman College), Arlene Miller Rosen (Ben Gurion University), Steven Rosen (Ben Gurion University), Eric Rupley (University of Michigan) and Duncan Schlee as archaeologists, Jane Goddard (University of Nottingham) as illustrator, Karen Abend (Brooklyn Museum), Katherine May (National Gallery of Art, Washington, D.C.) and Katharine Untch (Virginia Museum of Fine Arts) as conservators, Britt Hartenberger (Boston University) as flint specialist, and Dilek Erdal (Ankara University) as physical anthropologist. Our sincerest thanks are due to Sayın Enver Üstündağ (Malatya Museum) who served as representative of the Ministry of Culture at the site and to Sayın Eyup Buçak, director of Sanliurfa Museum. Financial support for the 1998 season was provided by the National Endowment for the Humanities, an independent agency of the United States Government, The National Geographic Society (Washington, DC), The Samuel H. Kress Foundation (New York), The Chancellor's Associates at UCSD, and Ben Gurion University (Israel) (specifically in support of Steven Rosen's work). Finally, we would like to acknowledge Andrew Bauer (University of Akron) who provided invaluable assistance in the preparation of the final illustrations.

expansion of the fortified city. Taken together, the high mound and lower city account for about 35 ha of occupied area at Titris Höyük. Additionally, the city was also surrounded by a number of more ephemeral non-contiguous habitation and activity areas, which account for a further occupied extent of about 8 ha, for a total site size of about 43 ha during the Mid-Late EBA. What makes the settlement history of the site unique is that the urban settlement of Titris Höyük collapsed in the Late EBA (ca. 2200 BC) and was never substantially reoccupied in the lower city. As a result, the Late EBA remains can be accessed just under the surface of the site over large portions of the settlement.

Taking advantage of the settlement history of the site, the central research focus at Titris Höyük since 1994 has been the recovery and analysis of broad exposures of Late EBA domestic. As a result of this work on urban architecture, over 2,500 square meters of non-elite urban building plans comprising nine complete or partial houses had been recovered in two separate neighborhood areas at Titris Höyük over the last three field seasons. Coupled with an extensive remote sensing survey of the ancient city conducted between 1993 and 1995 (see Algaze et al. 1995; Matney and Algaze 1995), the Titris Höyük project has produced a rich architectural database that clarifies the layout of complete neighborhoods within the city in the Late EBA and that sheds considerable light on the overall principles of spatial organization of the ancient city at that time (Matney and Algaze 1995). With this as background, in 1998 we continued work clarifying the overall structure of Titris Höyük in two separate operations, discussed below. The first operation consisted of further excavations in the easternmost sector of the Outer Town. This work was aimed at clarifying how the domestic structures previously exposed in the area were planned and built and how those structures articulated with the defensive system of the ancient city. Our second operation was conducted in an extramural suburb area of the site which we suspected might represent a specialized production area for Canaanite blades based on previous field survey (see below). Work in this second area was aimed at clarifying the nature, context, and extent of industrial production at the site. Figure 1 shows the location of these two areas.

OUTER TOWN (Area 4: Trenches 82/85, 82/86, 82/87, 82/88)

Timothy Matney and Guillermo Algaze

Domestic Architecture

The most extensive excavations in 1998 were concentrated in the Outer Town sector of the settlement, where portions of four trenches were opened, accounting for an exposure of 300 square meters. These trenches represent a continuation of previous archaeological work in the eastern end of the Outer Town between 1993 and 1995. That earlier work exposed an area of 1,175 square meters containing portions of four large houses aligned at either side of a street and situated just inside a massive fortification wall that protected the Outer Town (Algaze et al. 1995; Algaze et al. 1996; Matney, Algaze and Pittman 1997). Our renewed work in this area of the Outer Town in 1998 aimed to (1) clarify the architectural relationship

between the city wall surrounding the settlement and the nearby Late EBA domestic buildings exposed in 1993-1995; (2) clarify the constructional details of the city wall and, (3) complete the excavation of a large Late EBA house (Figure 3) which had been partially excavated.

The existence of a city wall surrounding the Outer Town was well known as a result of earlier magnetic field gradient surveys which show the wall preserved for a distance of about 140 meters along the entire eastern edge of the Outer Town (Matney and Algaze 1995: figs. 3-4). In 1994, a two meter wide slit trench was excavated between the wall and the nearby Late EBA houses. This trench demonstrated that the two were stratigraphically contemporaneous and that both had been built as part of a major restructure in the use of space in the Outer Town (Algaze et al. 1995: 21-22). Unfortunately, however, a narrow two meter wide trench did not allow us to understand how the city wall articulated with the neighboring houses or the nature of the wall itself. To answer these questions, we laid out four trenches in 1998 which physically connected our previous horizontal exposures of domestic architecture with the city wall.

At this preliminary stage in our analysis, pending a more detailed analysis of the evidence for individual rebuildings and changes in room function in individual architectural units, we will describe only the original ground plan of the structures uncovered in 1998 within Trenches 82/85, 82/86, 82/87 and 82/88 and the most important modifications to that plan. In turn, the new structures found in these trenches have been added to the plan of the original architectural layout of nearby structures in the northeastern corner of the Outer Town excavated in earlier seasons (Matney and Algaze 1995: Fig. 10). The conjoined plan appears here as Figure 2.

A basic feature of the area excavated in 1998 consisted of a sherd-and-pebble paved street running in a SW-NE direction, which represents a continuation of the street previously identified in 1994 and 1995 (Figure 2: A). A length of about 46 m of this street has now been exposed. The street was originally some two meters wide and served as a thoroughfare linking two parallel NW-SE running streets which are seen in the extreme southwest corner of the excavated area (Figure 2: B) and adjacent to the city wall (Figure 2: C). As noted above, to the north of the street lay a large domestic building (Figure 2: Building Unit 2) mostly exposed in the 1994-1995 soundings. To the south of the street we uncovered the corner of Building Unit 4, of which perhaps 30% of the plan has been recorded from previous seasons. A 1m by 1m sounding cut into the street showed that it was deliberately constructed of broken sherds and stones which were overlain by significant accumulations of trash.

Earlier we had compared the groundplan of Building Unit 2 with the domestic architecture from Tell Asmar in the Diyala region of Iraq (Matney and Algaze 1995: 41-42, Figure 11; Algaze et al. 1996: Figure 13). In particular we drew a comparison between the Titris Höyük structure and Tell Asmar IVa, House II, which dated to the end of the Akkadian period (Delougaz, Hill and Lloyd 1967: pl. 28; Gibson 1982: 533). A striking similarity in the plans was noted, despite lacking the easternmost section of the plan for the Titris Höyük building. As the excavation of Building Unit 2 was completed in 1998, it is now possible to present an updated comparative illustration (see Figure 3). The principal observation to be made is that, like the Asmar structure, the completed plan of the lateral wing of the Titris

Höyük structure (Figure 3: d) is comprised of six rooms of various sizes with the room adjoining the main house being the largest. In neither case, is there access to the street from these lateral rooms, suggesting a private space. A precise determination of room function awaits completion of specialist studies of the room debris. Also of importance is the observation that Building Unit 2, now completely excavated, is nearly exactly the same width as Building Unit 1 (22m). Likewise, it appears that Building Units 3 and 4, to the south of the main excavated street, are also 22m in width, although neither has been fully excavated. In short, these findings further strengthen the argument, made below, that these structures represent a centrally planned phenomenon.

One of the most significant results of our 1998 work in the Outer Town was the clarification of how the site's defenses articulated with the nearby domestic quarter. At least within the exposed area, it has now become clear that the fortification wall (Figure 2: D; described below) was flanked on its interior phase by a series of linearly-arranged rectangular rooms, built abutting the city wall and set into significant niches formed by piers on the inside of the wall itself. What is particularly important to note is that the plan of these rooms, of which three nearly complete examples were excavated in 1998, differs remarkably from the plan of the multi-roomed domestic structures that are more typical for the site in the Late EBA (Matney and Algaze 1995: Figure 10; Matney, Algaze and Pittman 1997: Figure 2). These rooms are entered from the street system through a single doorway located at the street intersection (Figure 2: E), but are connected to one another via a series of doorways, creating a long series of small rooms 2.5m to 3.5m wide and up to 5.0m long. Each of these rooms is further connected to another single room inset between the regularly spaced piers that abut the interior phase of the city wall.

A detailed analysis of the contents of these rooms is underway and will appear in subsequent reports. The preservation of material from primary contexts is very good and at least two of the three rooms immediately adjacent to the street show evidence of burning in an early phase (see Figure 4). The architecture is characterized by: well preserved mudbrick walls, substantial wall plaster near the floors, preserved in places up to 5 cm thick and beaten earth floors. The presence of a typical range of ceramics found elsewhere at Titris Höyük in domestic contexts and of a number of "domestic" features such as hearths, storage pits and plastered "domestic preparation surfaces" suggests that, despite their unusual plan, these rooms may have served as houses. It is unclear whether these rooms served as two-room units (marked as rooms on Figure 2: F, G, H and I) or whether they are all part of a larger organizational scheme that is wider than our exposure. There is no specific artifactual reason to suspect that these rooms were workshops or other spaces devoted to craft production or distribution, although significantly more work on the recorded associated artifactual assemblages is needed to confirm this initial observation.

Site Defenses

In 1994, our initial two meter wide slit trench across the eastern end of the Outer Town (Algaze et al. 1995) led us to believe that the site's defenses in this portion of the ancient

city consisted of a seven meter wide fortification wall. Facing this massive wall on its exterior face was a sharply slanted and purposefully built glacis or moat, minimally 14 meters in length and three meters in depth (Algaze et al. 1995). Our new much wider exposures of this feature show that our initial reconstruction of the wall was incorrect. The wall is in fact only between 3.0m and 3.5m in width and is studded on its interior face with massive regularly spaced rectangular piers or buttresses, each about 3 meters in depth (Figure 2). It now appears therefore that the narrowness of our initial 1994 trench had resulted in a view of the wall that conflated both the wall and one of its abutting piers, both of which had been cut at a slight angle by the trench. As noted earlier, the spaces between the internal wall piers were used as living areas.

The mudbrick city wall was constructed over a foundation consisting of several courses of large well-masoned limestone blocks. The wall itself had a substantial mudbrick superstructure, but less than a meter of this superstructure survives, owing to its proximity to the modern surface of the mound. Any additional features which might have sat atop the city wall at this point would have been truncated by the erosion of the tell over the past four millennia.

Mortuary Data

As noted in earlier reports (e.g., Algaze et al. 1995; Matney and Algaze 1995; Matney, Algaze and Pittman 1997), a common feature shared by many Late EBA houses across the site is their function as centers of mortuary ritual. Commonly this takes the form of associated intramural cist tombs of variable size and location, many of which were laid out and built at the time of the initial construction phase of the house. These burials are always communal and each contained the mostly disarticulated remains of multiple individuals of various ages and of both sexes, more likely than not members of the extended family occupying the house in which the tomb was located (Honça and Algaze 1998).

The typical burial type just described was not found during the 1998 excavations. Instead, a very unusual mortuary feature of a type not previously documented at Titris Höyük was uncovered. This was burial B98.87, which was found in a room (Figure 2: J) that had, in its initial phase of use, been part of a much larger Late EBA house (Building Unit 2) partially excavated in 1994-95 and completed in 1998 (Trench 82/87). The burial, however, is associated with a later rebuilding of the room in which it was found. During this latest use phase, the internal doorway that connected the room with the rest of the house had been blocked, and a new doorway communicating directly with Street C was built, in effect creating an isolated room on the corner of two streets.

Associated with this final use phase of the room was a packed earth floor and a typical self-standing circular basin made of white plaster set over river cobbles. These basins, of which we have several excavated examples in both the Upper and Lower Towns, are slightly concave in shape and between 1.5m and 2.0 m in width. They were probably used for a variety of household domestic functions. At the end of its use-life, this particular basin, however, was reused as a platform for a grisly mortuary display. The skulls of seventeen individuals were

placed around the edge of the basin, facing outward, and long bones and other body parts were heaped in the center (Figure 5). The relatively good state of preservation of the bones suggest that the remains were buried soon after being placed in the basin.

There are a number of unusual features about this burial. The first is the fact that the skeletons were not placed in a reusable underground cist, as was commonly done elsewhere at Titris Höyük in the Late EBA. Instead, B98.87 represents a single mortuary event, unassociated with any domestic context. The second unusual feature is that the bodies were not accompanied by any funerary gifts, as is customary for Late EBA burials at Titris Höyük. More surprising still are the preliminary results of the analysis of the skeletal material conducted by Dr. Derya Honça, the expedition's physical anthropologist, and Ms. Dilek Erdal, a graduate student in physical anthropology. Their work indicates that the burials are secondary in nature in that all of the individuals involved were clearly disarticulated. A third notable fact is the age and gender distribution of the remains. Of the 17 individuals represented in B98.87, all identifiable crania belong to young males (i.e., about 18-30 years), save for the skulls of a single adult female and a single unsexed child. Finally, an overwhelming number of the skulls showed traces of trauma to the head and in many cases it appeared that that trauma had been the cause of death for the individuals involved (Honça and Erdal, pers. comm. 1999). The significance of this unusual find and of its location within a self-standing room at the corner of two streets within the urban grid of the site in the Late EBA is likely to be the subject of much debate and speculation.

SUBURBS (Area 5: Trenches Core 1, Core 2, Core 3, Core 4)

Steven Rosen, Sumru Aricanli and Britt Hartenberger

In 1994, an *ad hoc* survey around the field camp of the Titris Höyük project in the Suburbs of the main site, at least 300 meters east (outside) of the city wall (see Figure 1 for location), revealed a high density of large flint blade cores (Algaze et al. 1995). Subsequently some 80 of these cores were collected and their locations were noted. This well-documented high density, virtually unparalleled in the Near East, suggested the presence of a lithic workshop for the production of Canaanite blades, the primary technology employed in the Early Bronze Age for the manufacture of sickle blades.

Excavations of this area were undertaken in the summer of 1998 under the direction of Rosen and Aricanli, with lithic analyses conducted by Hartenberger and Rosen. The excavations revealed *in situ* evidence for the complete reduction of Canaanite blades, from the import of raw material, to the preparation and reduction of cores and their by-products, and to the export of the blades themselves. In addition to this complete picture of the technological aspects of the lithic reduction system, our excavations also provided an architectural, chronological, and cultural context for the blade production. To anticipate our conclusions, it appears that Canaanite blade production at Titris was a specialized activity conducted by only a few flint knappers in a domestic context in a suburban area outside of the city wall.

Background on Sickle Manufacture

Sickle manufacture in the EBA has long been recognized to be the product of some form of specialized production (e.g., Rosen 1997 and references). Indeed, the production of very regular, large trapezoidal blades for use in sickle hafts has long been recognized as a hallmark of the EBA throughout the Near East. Although Neuville (1930, 1934-35), the first to properly define the type, coined the term “Canaanite” based on his experience in the Levant, it is clear that the type has a wide distribution across the ancient Near East. However, evidence for the actual manufacture of these blades has only rarely been found, usually in the form of a few or isolated cores (e.g., Futato 1996), or in rare cases, caches of cores (e.g., Pelegrin and Otte 1991). This scarcity is surprising given the abundance of the blades themselves, and their near exclusive use in the production of sickles, a commodity for which there was an obvious need. Furthermore, beyond the specifics of blade manufacture and distribution, the Canaanite blade system provides an alternative or complementary perspective on the rise of craft specialization. Unlike most commodities which have been examined in the rise of specialization, sickles are strictly utilitarian, were mass produced, and cannot be easily attached to any system of elite controls.

Architectural Remains from the Core Trenches

Two complete 10m by 10m trenches and two adjacent half trenches (5 x 10m), a total of 300 square meters, were excavated down to the first cultural horizon, located 30cm to 40cm beneath the surface (Figs. 6-7). The plow zone here was only 20cm to 30cm deep, so that surfaces and wall stubs were preserved quite close to the surface. Robbed out and disturbed walls were also reasonably clear, due to: (1) the preservation of cobble surfaces which abutted the walls, thus showing the original wall line; (2) the presence of limestone fragments in the basal clay beneath the walls and (3) the presence of occasional lines of upright sherds, apparently plastered against the walls. The goal of the excavation was the exposure of the lithic manufacture contexts, so that once excavated to the first cultural horizon, exposures were widened, not deepened. The high density of cores in the plow zone and on the surface, and the preservation of the uppermost stratum, suggested that this first horizon was indeed the source of these cores. Associated ceramics from this occupation are uniformly of Mid EBA date.

The architectural plan is summarized on Figure 6. Our preliminary interpretation of the plan is that it represents parts of two domestic complexes, with an alley or seam separating them, as can be seen in other areas of the site. Within Trench Core 1, Loci 23, 21 and 19 (N and S) form a northern compound with attached open cobbled surfaces (Loci 9, 13, 14, 15). A large basalt mortar was dug into the floor of Locus 19 N, and stabilized with the use of small cobbles inserted around its circumference. Door sockets are present in wall Loci 6, 12, 20, 23, and indeed Wall Locus 6 shows two sockets, suggesting some subphasing, impossible to decode at this stage of research.

A second compound can be recognized in Trench Core 2. A double wall, or perhaps a poorly-preserved large thick wall (Loci 6 and 15), seems to separate the two compounds.

This southern compound shows a line of small attached rooms (Loci 8, 20, 21, and 22). The truncated cobbled surfaces on the north side of these rooms (Loci 25, 27, 28) can best be interpreted as somewhat unusual interior installations. They are contemporary with the packed earth surfaces covering most of the room floors.

The southern complex is the blade production area. Some thirty or more Canaanean blade cores were found *in situ*, on surfaces or against robbed out walls, or in some cases, incorporated into walls (Figs. 7, 8: Trench Core 4). In addition, and more importantly, a cobble-capped pit (Locus 23) some 10cm to 12cm in depth and 1.1m across was found in clear stratigraphic association with the packed earth floor of room Locus 20 (and less than 3m from the core cache), and contained several thousand by-products of Canaanean core preparation and reduction (thinning flakes, decortication flakes, ridge blades, core tablets, chips, etc.). Not a single typical Canaanean blade was found, nor were any cores found in the pit. Presumably the blades were exported, and the cores set aside for further use. Detailed studies of these materials will be conducted by Hartenberger as a part of a doctoral dissertation.

Characterizing the areas opened up as fundamentally domestic rests on three lines of evidence: architectural, ceramic, and lithic. Architecturally, the remains uncovered from Trenches Core 1 and Core 2 are similar in both general plan and in specific features similar to those found in undisputed domestic contexts over the rest of the site. The ceramic assemblage, although not fully studied, also closely resembles typical domestic configurations at Titris Höyük. Finally, although the lithic assemblage as a whole is dominated by blade production, the tool assemblage is a typical *ad hoc* flake assemblage, associated with domestic contexts both at Titris Höyük and all over the Near East (Rosen 1997).

Blade Production and Distribution

A virtually complete *chaîne d'opératoire* can be reconstructed at Titris Höyük in the lithic workshop. Large chunks of vein or tabular flint raw material, up to 60cm in length, were recovered in the excavations, and on the surface nearby. The raw material is important since it is of nearly uniform thickness, showing flat cortex on both lateral faces, and rarely more than 10 cm thick. This uniformity seems to have influenced considerably the basic technologies of reduction, which are very standardized at Titris Höyük, and differ somewhat from other areas. The specific source of the raw material has not yet been determined, but there are local flint sources, and the source of late EBA flint is assumed to be not very distant.

Core preparation involved the breaking up of the large tabular chunks and their preparation into pre-forms showing ridged faces (Figure 7) with bi-directional removals. Over 500 core trimming flakes and decortication flakes were found in the debitage pit which reflect this stage of preparation. Preparation of the striking platforms seems to have been accomplished following the preparation of the striking face, to judge by unworked pre-forms with no striking platforms. Striking platform preparation is reflected in both thinning flakes and partially cortical core tablets, also found in the debitage pit (Figure 8). Long ridge blades, similar to those of the Pre-Pottery Neolithic B, reflect the first stage in blade production. Following this, blades were removed from a single face, and striking platforms occasionally

renewed with overstruck core tablets. Virtually no Canaanian blades were recovered from the workshop area, although some naturally backed Canaanian blades, that is, blades which retained cortex on one edge, were found. The absence of two sharp edges may have rendered these pieces undesirable. Otherwise the blades themselves seem to have been exported *en toto*.

It is interesting that the vast majority of cores seem not to be even nearly exhausted, and numerous blades could have still been struck off the large majority. Indeed, many seem to have been discarded even though still useable without need for core rejuvenation. Value seems to have resided in knowledge of technique, and not in a restricted raw material.

The Titris Höyük lithic workshop excavated in 1998 presents us with a first detailed view of a kind of specialized production that is unlikely to have been controlled by elites at the site. Unlike the elite goods usually associated with craft specialization, the sickle blades were mass-produced, required little special equipment, only rather common raw materials, and were for daily use. The knappers themselves supplied blades to a large number of people, but did so from a modest domestic situation. A possibly useful analogy would be the specialized knappers who produced threshing sledge teeth in this same area of Turkey only a generation ago (e.g., Bordaz 1969).

Future work in the flint production area will seek to establish the physical extent of the industry, although survey suggests it cannot be too extensive, and to explore the historical depth of the Mid EBA workshop excavated in 1998 to see if there are chronological changes in the production system at the site. Additionally, we will seek to identify the location of later comparable workshops supplying Canaanian blades to the Late EBA inhabitants of the city.

PRELIMINARY CONCLUSIONS: SETTLEMENT STRUCTURE

The 1998 excavations in the eastern portion of the Outer Town of the settlement have further clarified how space within the city in the Late EBA was organized. In each of the areas of the site where Late EBA neighborhoods have been uncovered, the neighborhoods evince a regularity and a level of labor mobilization that clearly show supra-household organization, perhaps through centralized administrators in control of the allocation of both labor and space within the city. Primary indicators for this at Titris Höyük include: (1) the striking parallels in house plans in different neighborhoods across the site (Matney, Algaze and Pittman 1997: Figure 5), (2) long-lived streets that in some cases were laid down before neighboring structures were erected, (3) large-scale terracing and leveling operations prior to the construction of the neighborhoods, (4) terracing walls built perpendicular to the natural slope of the mound that are shared by several individual houses, (5) repeated uniform measures of land for house construction within the neighborhoods, (6) a symmetry in wall and entrance alignments that extends across individual houses and even across streets (Figure 2, see also Matney and Algaze 1995; Matney, Algaze and Pittman 1997). Additionally, the 1998 excavations in the Outer Town clarify the magnitude and scope of the urban renewal program that transformed the site in the Late EBA. It is now clear that the domestic areas of the Outer Town and the nearby city wall are intricately articulated and form part of a single (and

massive!) coherent constructional event.

Unfortunately, little can be said about the overall structure and organization of the settlement in the preceding Mid EBA phase, when the site first emerged as an urban center because it has only been practicable to excavate limited exposures of the underlying Mid-EBA levels thus far at Titris Höyük. However, the new excavations in eastern extramural suburb area indicates do help flesh out our limited understanding of the site in this earlier, less well-documented phase. It is now clear that specialized extramural production areas were part of the urban configuration of Titris Höyük in the Mid-EBA.

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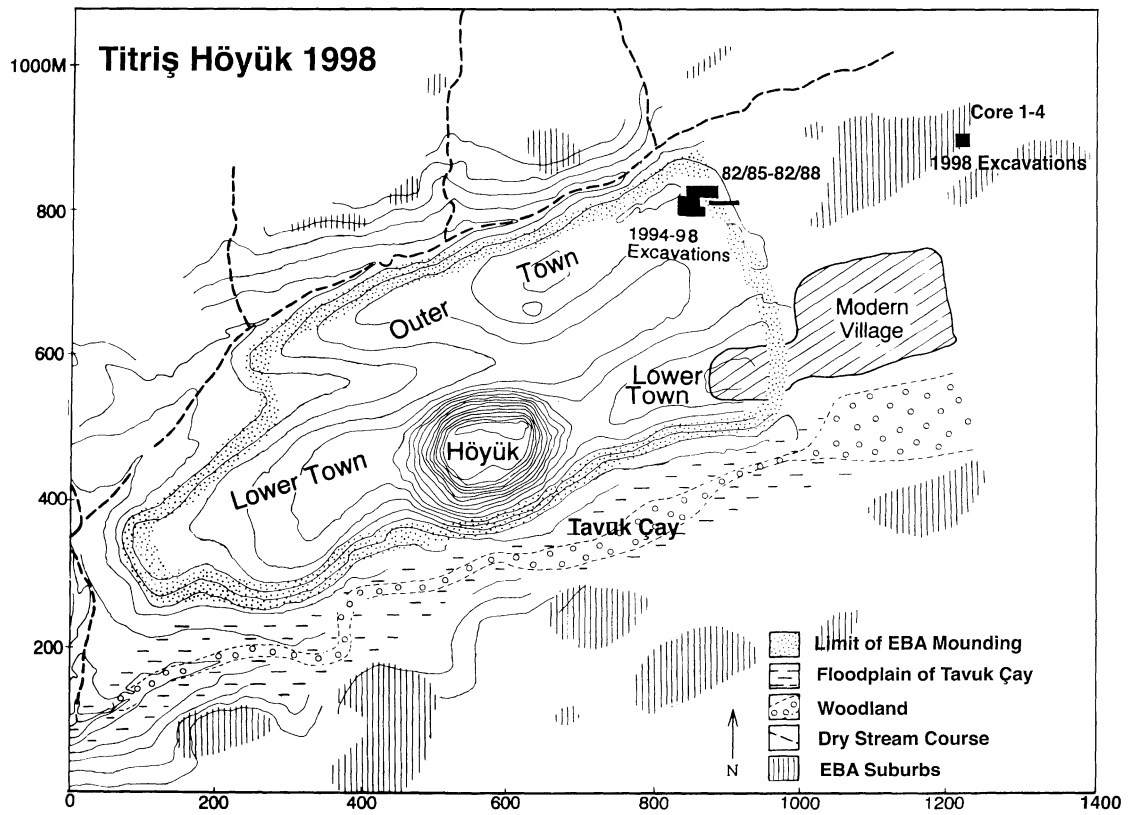


Fig. 1. Contour plan of Titriş Höyük. The areas excavated in 1998 are marked in the northeastern corner of the site.
Scale along axes is in meters.

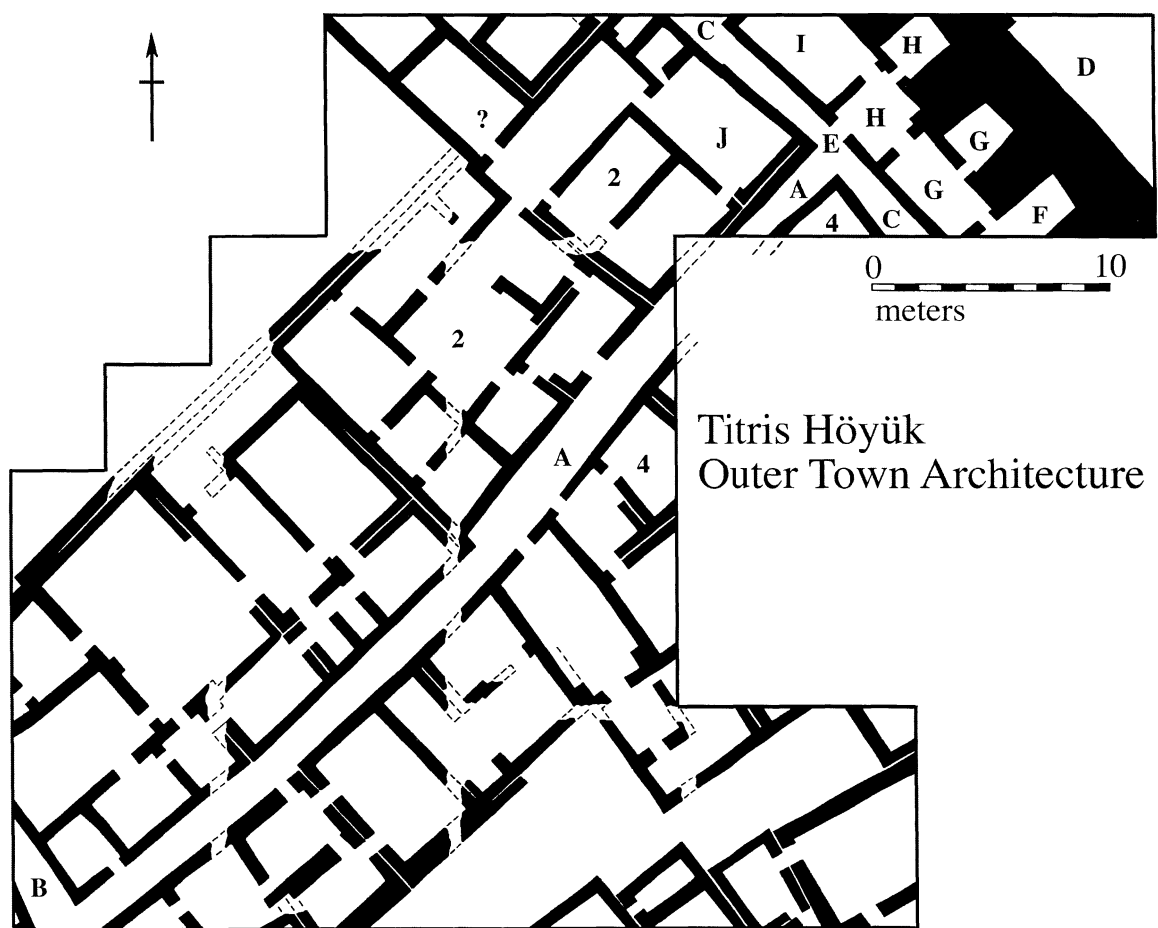


Fig. 2. Composite plan of Outer Town architecture, 1993-1998. Numbers refer to building units. Letters correspond to references in the text.

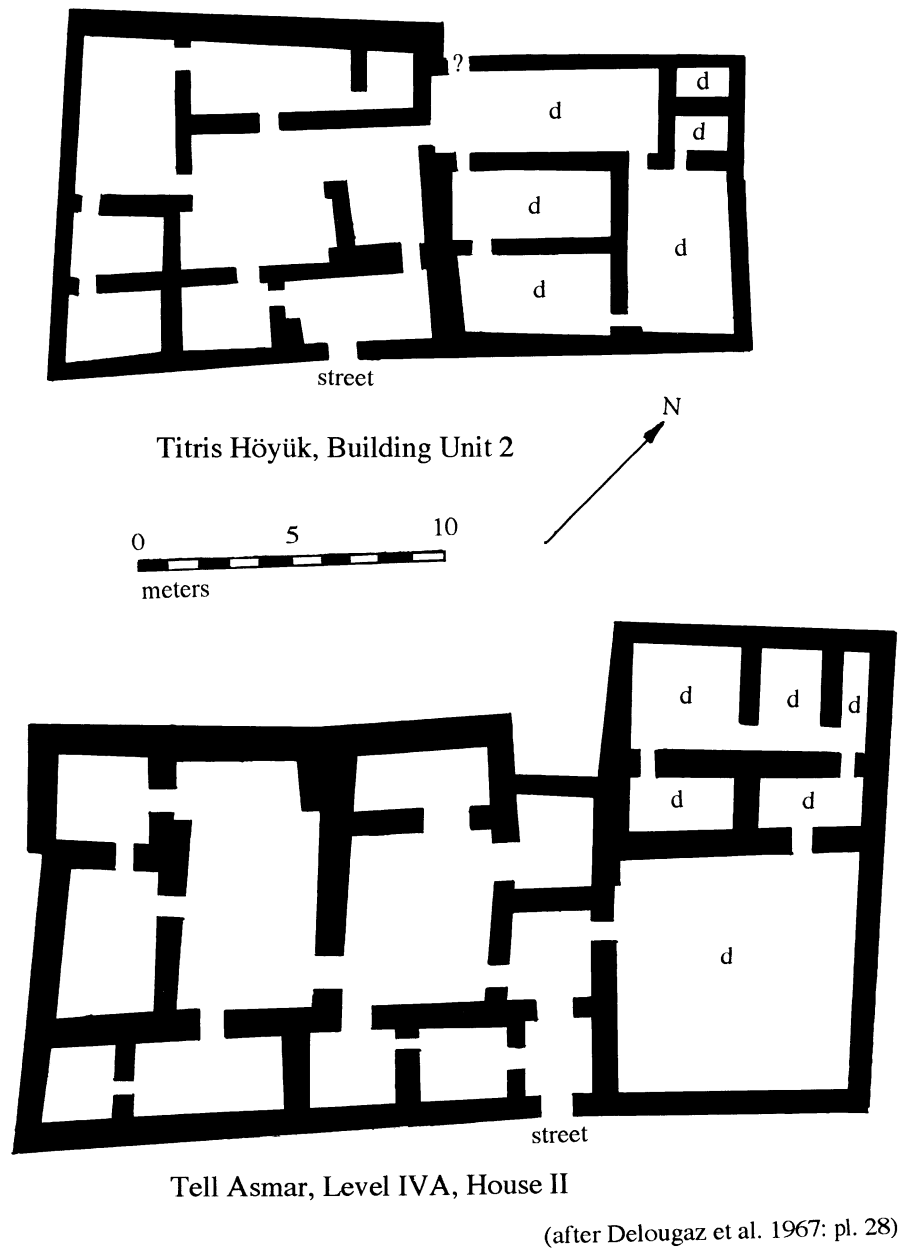


Fig. 3. Comparison of contemporary domestic structures from Titris Höyük and Tell Asmar.



Fig. 4. Photograph of floor Locus 033 in south room of Trench 82/88. Facing south. Note the domestic oven and plastered basin with mudbrick construction inside along the southern edge of the room, near the baulk.



Fig. 5. Burial in plastered basin, showing skulls during excavation (B98.87). Trench 82/87.

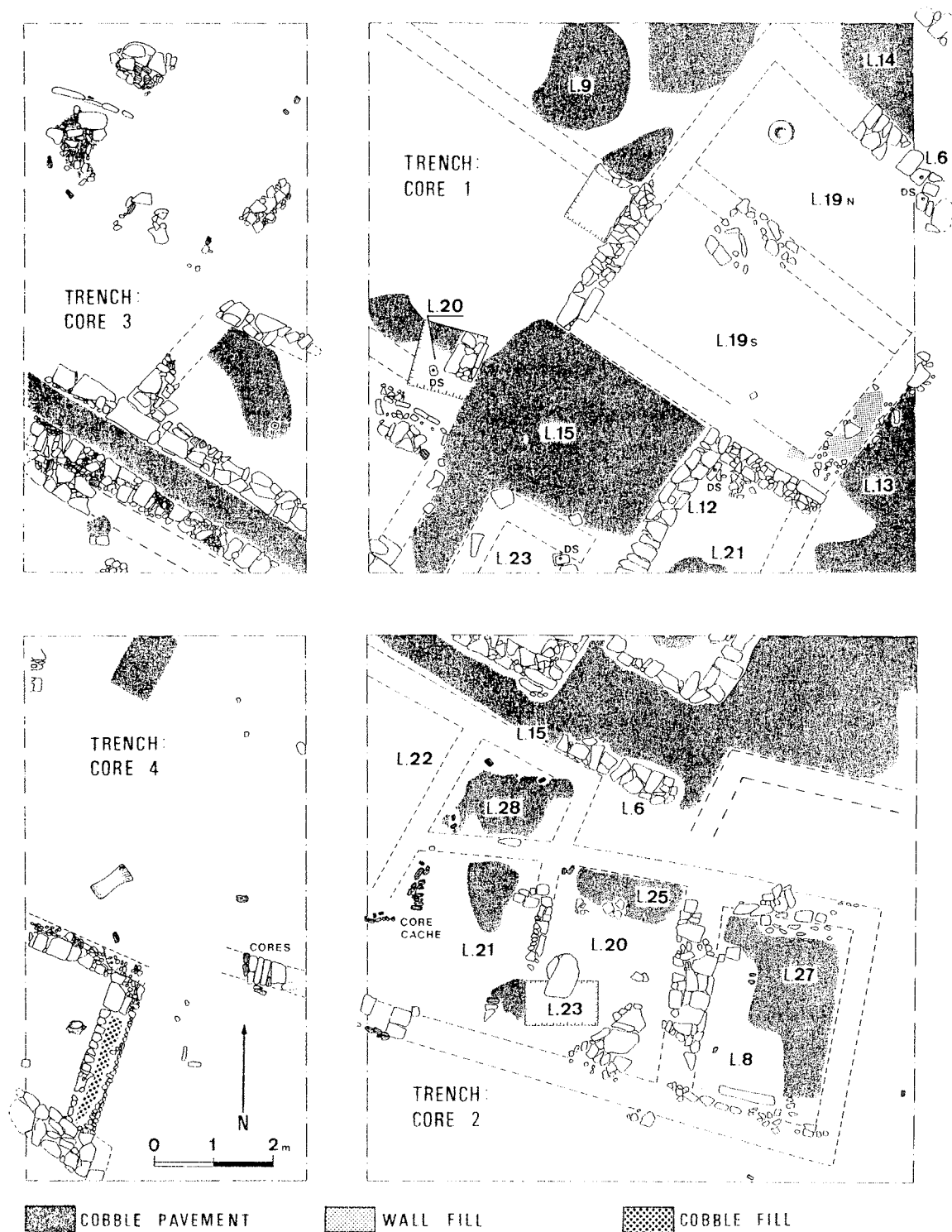


Fig. 6. Plan of Mid-EBA architectural remains in Core Trenches 1-4.
Note that the wall lines are often delineated by the extent of cobble paving.



Fig. 7. Photograph of Canaanite blade cores.



Fig. 8. Photograph of Caneanean blade core waste.

THE SECOND SEASON OF WORK AT ZİYARET TEPE IN THE DİYARBAKIR PROVINCE: Preliminary Report

Timothy Matney and Lewis Somers

This report describes the results of archaeological work undertaken in late September and early October of 1998 at the archaeological site of Ziyaret Tepe in the Diyarbakır Province of southeastern Turkey.¹ Ziyaret Tepe is a large multi-period mounded site located on the south bank of the Tigris River, just east of the modern town of Tepe and 20 kilometers west of the confluence of the Tigris and Batman Rivers in the Diyarbakır Province of southeastern Turkey (see Figure 1). At this point in its course, the Tigris River, running west to east, cuts through a series of broad, low terraces which rise sharply on both the north and south limits of the wide floodplain. Ziyaret Tepe commands an impressive view situated atop one of these terraces overlooking the right (southern) bank of the Tigris.

Oversimplifying a complex situation described in more detail in an earlier report (Matney 1998), Ziyaret Tepe consists of two basic morphological units: the High Mound or acropolis and a surrounding Lower Town (see Figure 2). The High Mound is located at the northern edge of the site and rises twenty-two meters above the surrounding terrain. It is approximately three hectares in extent and, in general, is quite flat on top. The High Mound is distinguished by a large hollow cut in along its northern edge, probably representing a major gateway onto the site's citadel. Considerable slope wash can be seen spreading out across the fields to the north near the cut. The High Mound is also characterized by steeply sloped sides, especially along the north and east, suggesting that the present configuration of the mound was constrained by the presence of buried fortification walls. In 1997, we noted the presence of foundations for a large stone wall near the top of the slope on the southern side of the mound. These foundations had been exposed by a cut for a modern track and we have interpreted this wall segment as being part of the High Mound defensive system (see Matney 1998: Figure 3

¹ Our team for this brief season consisted of the author, Lewis Somers (GeoScan, Inc.) as geophysicist and our driver Mustafa Kılıçal. Our sincerest thanks are due to the representative of the Ministry of Culture who accompanied the expedition, Bey Esref Sürücü of the Edirne Museum, and to Bey Necdet İnal, director of the Diyarbakır Museum, both of whom provided invaluable assistance in all aspects of our endeavor. We were aided by a number of local authorities, most notably M. Sebiş Sümer of the Tepe Belediyesi and D. Murat Güler of the Tepe Köyü Jandarma Komutanlığı, to whom thanks is also due. Funding and other support for the 1998 season were provided by the National Geographic Society, the American Research Institute in Turkey, the American Philosophical Society and the University of Akron. The preparation of this manuscript was greatly aided by comments and insights from Guillermo Algaze, to whom we are most thankful. We would also like to recognize the able assistance of Andrew Bauer in preparing the figures for this report.

“Wall”).

Surrounding the walled citadel is an extensive Lower Town, spreading out for some twenty hectares to the west, south and east of the High Mound. The topography is shown in Figure 2. The Lower Town at Ziyaret Tepe is generally flat, although a slight rise at the edge of the lower town at its southern edge, detected during the 1997 season, may mark the line of a city wall. Likewise, the western edge of the lower town is marked by a significant wadi and the eastern edge by a more moderate slope, both of which may be the result of post-depositional erosion following the lines of ancient fortifications. The edges of the Lower Town mark a reduction in the quantity of surface ceramics and are shown with a thick black line on Figure 2. This line also corresponds closely to the minor topographic features noted above, although the elevational change for the linear features is less than the three meter contour interval shown in this figure.

Previous archaeological survey work at the site in 1997 had established the likelihood that Ziyaret Tepe represents one of three Assyrian-period border towns along the Tigris River between Diyarbakır and Batman (see below), which formed the northern border of the Assyrian empire (Matney 1998: 18-19). The high density of Middle and Neo-Assyrian style sherds on the surface of the Lower Town showed that Ziyaret Tepe was a moderately-sized city during substantial portions of the mid-second and early first millennia BC. Although there is an apparent “gap” in the Lower Town ceramic sequence during the Early Iron Age as seen from surface sherds, our knowledge of the indigenous (i.e. non-Assyrian) ceramics from the Late Bronze and Iron Ages in the Tigris basin is poor and this gap may be more illusory than it seems at present. In any case, traces of monumental architecture of Assyrian date immediately below the surface of the High Mound found earlier in 1997 (Matney 1998: 15) strengthen the observation that Ziyaret Tepe was an important Assyrian settlement.

The principal goal of the 1998 season at Ziyaret Tepe was to undertake a feasibility study testing the efficacy of remote sensing technology for mapping subsurface features at Ziyaret Tepe. Given our previous experience at the Early Bronze Age site of Titris Höyük in the Şanlıurfa province (see Algaze et al. 1996) using magnetic field gradient surveys (magnetometry), we chose to conduct a small survey using this methodology over representative portions of the High Mound and Lower Town. Our choice of magnetic field gradient survey was driven by three requirements. First, previous work in Turkey using this methodology by one of the authors has produced excellent results at a number of archaeological sites, such as Kerkenes Dağ and Kaman Kale, both in central Anatolia (e.g., Somers 1997; Summers et al. 1998), and Titris Höyük in the Upper Euphrates region where the correlation of subsurface features with excavated results has been exceptionally close (e.g., Algaze et al. 1996: Figure 4). Second, it is possible to cover large areas quickly and relatively inexpensively, making this technique of subsurface mapping more cost-effective generally than techniques requiring either physical probes to be placed in the ground (e.g., resistivity) or unwieldy equipment (e.g., ground penetrating radar). One result of this season’s work is our calculation that at maximum efficiency it should be possible to survey on the order of 8,000 square meters in a full working day at Ziyaret Tepe with a single hand-held gradiometer. Third, the need for broad (i.e., nearly complete) coverage of the subsurface features of Ziyaret

Tepe stems from the overall research agenda for the project, namely to study the layout and structure of this urban center.

The principal reason for choosing Ziyaret Tepe as the site of a long-term research project was its promise as an essentially single-period occupation of urban proportions, in terms of the Lower Town, where issues such as city planning, residential architectural design and the functional use of space could be addressed. The understanding of such macro-scale urban issues requires broad scale architectural plans, well beyond the scale of what can be gained through traditional field excavation techniques. Of course, the success of magnetic mapping is largely dependent upon a number of local conditions, including soil variation, type and availability of stone and other building materials and the nature of the archaeological deposits. It was towards a better understanding of these local conditions that much of our energy in the 1998 survey season was devoted. During the early part of October, our small team completed the magnetometric survey of 3.25 hectares, roughly 10%, of the surface of Ziyaret Tepe. The results of this survey, and their preliminary interpretation, constitute the remainder of this report.

HISTORICAL IMPORTANCE OF ZIYARET TEPE

As noted in the preliminary report of our 1997 season (Matney 1998), the cuneiform record of the Middle and Neo-Assyrian kings suggests that the region immediately south of the Tigris River came under Assyrian influence during much of the Middle and Neo-Assyrian periods, c. 1300 to 600 BC. During the Late Iron Age, the Tigris River demarcated the boundary between the Assyrian interests to the south and a number of small Aramaean kingdoms to the north (Kessler 1980; Zadok 1989: 165-166). In particular, a series of garrison cities were placed along the Tigris river between Batman and Diyarbakır and a series of small forts were built to guard what was the northern peripheries of the Assyrian state (see Parker 1997b; 1998). Ziyaret Tepe has been identified as one of these Assyrian garrison cities, perhaps the regional capital of Tushan, based on the historical geography of the region (Parker 1997a: 233). Kessler (1980: 110-121) was the first to make this claim, although alternative locations for the site of ancient Tushan have been proposed. Taylor (1865: 22-23), and more recently Sevin (1989; 1992), have suggested that the nearby Assyrian site of Üçtepe was the location of ancient Tushan. Our initial surface surveys strengthen the correlation of Ziyaret Tepe with one of the important Assyrian garrisons along the Tigris (Matney 1998). Only significant excavation at Ziyaret Tepe will allow for its secure identification and unambiguous placement within late second and first millennia BC historical geography.

SURVEY DESIGN

For purposes of the 1998 magnetic field gradient survey, the site was divided into four morphological areas each between 4,000 and 10,000 square meters in extent (Mag-A, Mag-B,

Mag-C and Mag-D). The selection of survey locations was determined on the basis of the 1997 surface sherd survey and through considerations of immediate local conditions, such as ground cover and modern land usage. Figure 2 shows the location of the areas which were magnetically surveyed. Two areas were selected on the High Mound, one on the west side (Mag-A) and one on the east side (Mag-B). Likewise, two areas were selected in the Lower Town, one on the eastern edge of the site (Mag-C) and one in the southeastern corner of the site (Mag-D). The rationale for choosing the locations of each of these trenches is given below. Magnetic data was collected in the field using a FM-36 Magnetic Gradiometer and a laptop computer running GeoPlot software for processing raw data. The basic collection unit for the surveys was a 20m x 20m grid. The grid area was aligned to the site grid established in 1997 and data was collected along north-south traverses set 1 meter apart west to east. Eight data samples per meter were taken in the north-south direction providing a total of 3200 data samples for each 20m x 20m grid.² The data were then interpolated to a 2 x 2 data sample per meter density and exported to Surfer, a commercial graphic software program used to generate the maps used in this report. The FM-36 Magnetic Gradiometer was operated on a 0.1 nT sensitivity range.

MAGNETIC FIELD GRADIENT SURVEY RESULTS

The preliminary maps generated from the 1998 magnetic field gradient survey are discussed below (see Figures 4-7). Each morphological area is discussed separately and the presentation of the data uses the following graphical conventions. Magnetic field gradient survey measures small deviations in the earth's magnetic field which are the result of local archaeological and geological distortions. At its simplest, magnetic field gradient maps show features and conditions which increase the field gradient by adding to the earth's magnetic field ("positive data") and features which decrease the field gradient by subtracting from the earth's magnetic field ("negative data"). Areas which have a uniform or undisturbed magnetic field are considered "zero data regions". The maps discussed below show the positive data as black and negative data as white. Gray tones are used for intermediate field gradients; mid-gray represents zero data value. In general, we expect highly positive magnetic features such as burned mudbrick structures and kilns to appear as strong black features (such as seen in the northeast corner of Figure 7), while negative magnetic features such as limestone wall foundations should appear as white lines on the plans. As survey moves into excavation at Ziyaret Tepe in future seasons, we expect to be able to correlate some of the magnetic signals seen in Figures 4-7 with specific types of archaeological features by checking the "ground truth" of the magnetic maps. Such future studies will greatly aid in the interpretation of the

² In order to test the effectiveness of the magnetic mapping at different data densities, we reduced the number of samples per meter to 4 in part of the Mag-D survey area. In this area, the reduction in the number of data samples did not substantially decrease the quality of the magnetic imaging. This observation suggests that future work should be done at the lower density, as this significantly increases the speed of data collection in the field.

data generated by magnetic gradient field survey.

AREA MAG-A SURVEY RESULTS (figure 4)

Location and rationale

The Mag-A survey area is located on the western lobe of the High Mound. Here we surveyed an area of 100m (north-south) and 40m (east-west) for a total of 4,000 square meters. The region of the Mag-A survey represents perhaps the largest flat, open area on the High Mound and was chosen in order to include a gentle rise with a commanding view to the west over the Tigris as it heads downstream past Ziyaret Tepe.

Results

The northern edge of the survey area was clipped by the sharp escarpment of the High Mound, shown in Figure 4 as a dark black line running from southwest to northeast at the top of the image. The magnetic gradient survey shows clear evidence of a large structure, nearly square with dimensions of approximately 22m on a side. This structure is noted as “A” on Figure 4. The interior of the structure has a slightly stronger positive magnetic signature than the surrounding areas and is bounded by linear features with a negative magnetic gradient.³ The linear negative features most likely represent stone foundations for the building. At the edges of the structure, especially to the southwest, the limits of the structure (or structures) are marked by strong bipolar data (alternating strongly positive and strongly negative data) indicative of baked brick collapse. The southern half of the Mag-A survey area (Figure 4: “C”) has higher fluctuations in the magnetic gradient than the northern half of the area (Figure 4: “B”). Two possible interpretations are warranted here at this preliminary stage of the analysis. First, it might be suggested that the density of building decreases as one approaches the edge of the High Mound, where we suspect the presence of a city wall based on the morphology of the mound. Second, it is equally as likely that if a large city wall was built here at the edge of the High Mound, then the erosion of the mudbrick superstructure could have deeply buried the architecture immediately inside of the city wall. This would account for a zero data region immediately inside the city wall. This second hypothesis is further strengthened by the observation that there is a slight rise at the very northern limit of the mound and a gently slope to the south, again suggesting the deflation of the surface at the mound’s edge.

In general, although the resolution of the Mag-A gradient survey is not particularly sharp, it is possible to argue for the presence of a range of interior rooms surrounding a large space (an open courtyard?) in the square building noted above. The quality of the imaging on the High Mound at Ziyaret Tepe is consistent with that from other mounded areas where magnetic data is often ambiguous owing to frequent architectural rebuildings and modifications.

³ Note that the strong magnetic point at the intersection of two grid lines represents one of our iron survey points.

AREA MAG-B SURVEY RESULTS (figure 5)

Location and rationale

The location of the Mag-B magnetic gradient survey along the eastern edge of the High Mound was chosen in order to test an area immediately adjacent to several modern robber's pits used for gathering masoned stones for a modern cemetery on the southeastern tip of the High Mound. The robber's pits uncovered an Assyrian-period baked brick pavement and wall foundations immediately below the mound's surface (Matney 1988: 15). The pavement was clearly associated with a series of wall foundations constructed of well-masoned stones, seen in section. The spoil heaps from these pits contained diagnostic Middle and Neo-Assyrian ceramic forms, suggesting a probable date in the first half of the 1st millennium BC for these constructions. It was our hope that the magnetic field gradient survey in 1998 would further elucidate the nature and plan of the underlying architecture.

Results

The Mag-B survey covered an area of 150m (north-south) and 40 to 45m (east-west) for a total of 6,250 square meters. The northeastern edge of the survey area was clipped by the edge of the High Mound, shown in Figure 5 as a dark black line running northwest-southeast (marked "tell edge"). Linear patterns dominate the entire survey area, but are especially prominent in the southern half of the area, marked as "A" on Figure 5. These linear features were delineated by following the strongly localized bipolar data, which again we suspect represent fired brick. The lines marked on Figure 5, then, probably represent the remains of wall lines, although it is not possible to clearly delineate any single complete structure. Obviously a significant amount of mudbrick collapse in this area is obscuring the linear signals of the underlying structures.

AREA MAG-C SURVEY RESULTS (figure 6)

Location and rationale

The Mag-C survey was located on the eastern edge of the Lower Town where surface survey in 1997 produced a high concentration of Middle and Neo-Assyrian type fossils, with few later Roman or Islamic sherds present (Matney 1998: Figures 12-15). The topography of area Mag-C was marked by a long, low north-south ridge. Here the surface rises slowly to a linear crest and then slopes downward to the east. This ridge corresponded to a notable decrease in the number of sherds in the northeastern corner of the surveyed area. Our initial interpretation of this ridge and sherd distribution pattern was to posit the location of an external city wall. Furthermore, a small hillock in one area of the ridge was interpreted in 1997 as a potential gate. As noted above, a second reason for choosing this area for magnetic survey

was that the surface sherds we recovered in 1997 were almost entirely Assyrian in date, suggesting little later settlement or disturbance in the region.⁴

Results

The results from the Lower Town magnetic gradient survey were much clearer than those achieved on the High Mound and it is in the Lower Town that the value of applying this methodology over a wide area at Ziyaret Tepe in the future is best demonstrated. Figure 6 illustrates the survey results in a 10,000 square meter area on the eastern edge of the settlement near, as noted above, what we presumed prior to starting the magnetic survey to be the city wall. The original survey area consisted of an area 80m east-west and 100m north-south. This is the northern "block" seen in Figure 6. In the southwestern corner of this area, we achieved interesting results where the remains of linear constructions could clearly be seen in the preliminary magnetic field maps. Encouraged by these results, we surveyed an additional 40m east-west and 50m north-south area to the southwest of the original survey area. The magnetic data in this southern extension (marked "C" on Figure 6) have a number of linear features and probably represent a built up area just inside the easternmost city wall.

The northern area of the Mag-C survey area is dominated by a single structure, (marked "A" on Figure 6) approximately square in shape and between 15m and 20m on a side in size. This structure was located by virtue of its ephemeral magnetically positive signal and the strongly bipolar mass nearby, the latter probably representing baked brick collapse. In addition to the square structure, a weakly positive linear feature ("B" on Figure 6) projects away from the structure in a southeastern direction for approximately 45m. Although this linear feature lacks a strong magnetic signature, its location fits closely with the drop-off in pottery density and the low topographic rise noted above, strengthening our hypothesis based on surface topography and sherd scatters that this is, indeed, the location of the city wall. The large building "A", given its size, location and the fact it is filled with baked brick rubble (as opposed to mudbrick), suggests a tower, gate or other public structure and is topographically located under a small hillock protruding above the low rise. Although one sees several other clearly linear structures in the southwest corner of this plan (marked as "C"), surprisingly the area surrounding the square structure "A" is devoid of features which locally affect the earth's magnetic field. In other words, if this is a tower associated with the city wall, then the area immediately inside the wall was open or unbuilt space.

Also of significance is a second faintly positive linear feature (marked "D" on Figure 6) which runs parallel to feature "B" (at a distance of approximately 30m to the east). Two possible explanations for this feature come to mind. First, this linear feature "D" may represent a ditch cut into bedrock, perhaps as the final part of a glacis strengthening the fortification

⁴ A number of modern features are also seen in Figure 6. The narrowly-spaced linear features running northwest-southeast across the entire plan represent furrows from modern plowing and the very strong positive (black) lines on the map are field boundaries marked by ridges of stones running, in area Mag-C, from northwest to southeast. The most obvious of these field boundaries is marked "modern field boundary".

wall. This ditch, running parallel with the city wall, would have filled with wind-blown soils after the abandonment of the fortifications. These infill soils tend to be richer in iron and, hence, produce a weak positive magnetic signature. If there was a ditch cut into bedrock and filled erosionally with topsoil, then the resulting “positive scar” would appear as a faint black line, as seen in Figure 6. An alternative hypothesis is that this is indeed a cut into bedrock at the site, but that it represents a pathway or road. Indeed, feature “D” appears to divide at the center of the surveyed area and one “branch” heads south, approaching a very strong positive feature on the line of the city wall. This positive feature is seen as a black spot in the southeastern corner of Figure 6. Similar signals probably represent *in situ* fired soils (e.g., a kiln) or a large piece of basalt. One is tempted to posit the location of a gate through the city wall here since feature “D” appears to intersect the city wall near the southern edge of the surveyed area, but this might be overinterpreting the data.

AREA MAG-D SURVEY RESULTS (figure 7)

Location and rationale

Equally promising results were obtained in area Mag-D, located at the southern edge of the site near the southeastern corner of the Lower Town. Here we surveyed an area between 40m and 60m east-west and between 100m and 150m north-south in extent. The total area surveyed was 8,000 square meters. As with the work done in the Mag-C survey area, we were sampling near the presumed edge of the site, which was marked on the ground by a very slight rise in topography and, again, by a decrease in the density of surface pottery. Surface sherds from area Mag-D were predominantly Middle and Neo-Assyrian type fossils, but also included a small number of Roman sherds and roof tiles (Matney 1998: 14). The distribution of the Assyrian sherds suggested that the Lower Town was densely occupied in the mid-late second and first half of the first millennia BC. On the other hand, the density of late Roman sherds and tiles was relatively low compared to the Late Bronze and Late Iron Age remains and our assessment of these surface finds is that the area surrounding the High Mound was probably occupied by isolated farmsteads during the Late Roman period (see Figure 3 for chronology).

Results

Figure 7 shows the magnetic gradient field survey for the Mag-D survey area. The most prominent feature runs across the southernmost region surveyed and consists of a distinct linear magnetic feature with both a positive and negative side. This feature runs for some 70m and clearly extends further to both the east and west off of the current map. This feature seems likely to represent the city wall. Near the centerpoint of the line of the wall, a disturbance is caused by a large rectangular feature, which is approximately 20m by 15m in dimension. This rectangular feature aligns with the city wall and is interpreted as the lines of a tower (or other structure) abutting the city wall on its northern face. The wall appears in the Mag-D survey as

a feature several meters in width at least and to the south (i.e., outside of the city) there appears to be no further construction visible, as seen in the zero data region in the extreme south of Mag-D. The positive/negative nature of the linear feature has several possible interpretations. This signature could represent a fired brick facing on a mudbrick wall. Alternatively, the negative data could be limestone foundations while the positive data represents a construction on top of the wall. In any case, it seems likely that this represents a significant wall, either demarcating the edge of the settlement or, at least, a major partitioning of space within the city.

A number of linear features are also visible in the northern part of this plan. These lines form rectilinear enclosures, one of which (marked "B" on Figure 7) contains very strong positive data probably representing the remains of a kiln with the surrounding strong bipoles perhaps showing kiln waste. Alternatively, "B" could also show the location of hearths, burnt structures, fired bricks or large iron-rich stone or iron deposits. A second strong positive feature of similar size can be seen approximately 20m to the northwest. These strong positive magnetic features in the northeastern corner of the survey are worthy of additional exploration. The remains of weakly negative magnetic features in the northwestern corner of this plot (marked "C" in Figure 7) are interpreted as limestone wall foundations, although it is difficult to distinguish much in the way of architectural detail from the Mag-D survey area.

It is useful, however, to contrast the relative uniformity (i.e., a tendency towards zero data) of the area immediately inside the city wall in the Mag-C survey area located over 500m to the northeast of Mag-D with the much greater localized bipolar data found inside the city wall in the Mag-D area. At present, our best interpretation of this phenomenon would be to argue that the surveyed area in Mag-C represents a gateway with a large open space immediately inside of the city walls, perhaps for the stabling of pack animals and herds within the relative safety of the fortifications while the survey area in Mag-D represents a built up region immediately inside the city wall.

CONCLUSIONS

The surface sherd surveys and topographic planning completed at Ziyaret Tepe in 1997 demonstrated that this site was well suited for the long-term study of domestic architecture and city planning in the Late Bronze and Iron Ages. The principal question posed during the subsequent 1998 season was whether or not Ziyaret Tepe was an appropriate place to conduct a large-scale subsurface magnetic gradient survey. While the results obtained and presented here are far from unambiguous and while our description remains at an exceedingly coarse level of resolution, we believe that we have gained a sufficient insight into the urban structure of Ziyaret Tepe using remote sensing methodologies to warrant further study. This is especially true in the Lower Town where our clearest results have been obtained.

An initial characterization of urban Ziyaret Tepe can be based on three complementary data sets: (1) the morphology of the settlement seen via topographic planning; (2) the distribution and density of diagnostic surface ceramics recovered via surface survey and (3)

the limited subsurface magnetic mapping completed in 1998. As we would expect from an Assyrian settlement in this region given the historical documentation describing the Tigris as a border region, Ziyaret Tepe was a fortified city. This is seen in the morphology of the High Mound, the location of low ridges in the Lower Town which correlate with changes in ceramic distribution and through the magnetic surveys done in areas Mag-C and Mag-D. The fortifications encompassed both an interior (citadel) wall and an exterior (city) wall surrounding the Lower Town. If one assumes the constructions in area Mag-C to be a city wall, northern tower and southern gate, then the lack of buildings seen in the magnetic record immediately inside of the gate suggests an open area (loading/unloading goods? open air market? shelter herds and caravans?). Within the Lower Town, the occupation away from the gate area appears to consist of densely built architecture. This is suggested by the Mag-D survey, where the northern half of the survey area is marked by a significant number of rectilinear features. No coherent plan of these structures can be drawn from the magnetic maps at present without further processing. The southern part of the Mag-C survey area provides for a similar conclusion regarding the nature of the architecture immediately adjacent to the city wall. On the High Mound, the nature of the architecture is not easy to discern or characterize from our present information. The large building in area Mag-A appears to have few surrounding structures since the adjacent spaces have a different magnetic gradient than the building itself. This might indicate that the Mag-A building is a large isolated structure. The apparently random mixture of strong bipolar data in the magnetic gradient maps in area Mag-B leads to the possibility of massive brick tumble, either burnt mudbrick or baked brick, which is consistent with the hypothesis that the High Mound would have been the locus of significant public building projects during the latest Assyrian occupations.

FUTURE WORK

Prior to undertaking a full magnetic gradient survey of Ziyaret Tepe (provisionally planned for the summer of 2000), the next short-term goal of the project is to map the immediate environs of the site in order to place Ziyaret Tepe within a firm regional context. To this end, work has started on the construction of a Geographic Information Systems (GIS) database which will combine satellite, aerial and terrestrial maps, magnetic and other subsurface imaging and the results of archaeological surface survey and (eventually) excavation into a single geographically-oriented database. In 1999, we hope to field another small team to assess the regional landscape within a 5km radius of Ziyaret Tepe. We will collect data on land-use patterns, shifting river channels, basic geomorphology and hydrology, the paleoenvironment, as well as mapping archaeological sites and features. This study will supplement the survey work already done in the region by Algaze and his co-workers which concentrated on the Tigris floodplain and the immediately adjacent terrace edges (Algaze et al. 1991), while sites further inland fell outside of his survey parameters. Likewise, it will add significantly to our understanding of the resources available to and the environmental constraints placed upon early urban inhabitants of the region. Following the completion of our

mapping project (1997-2000), we will begin large-scale excavation in the summer of 2001.

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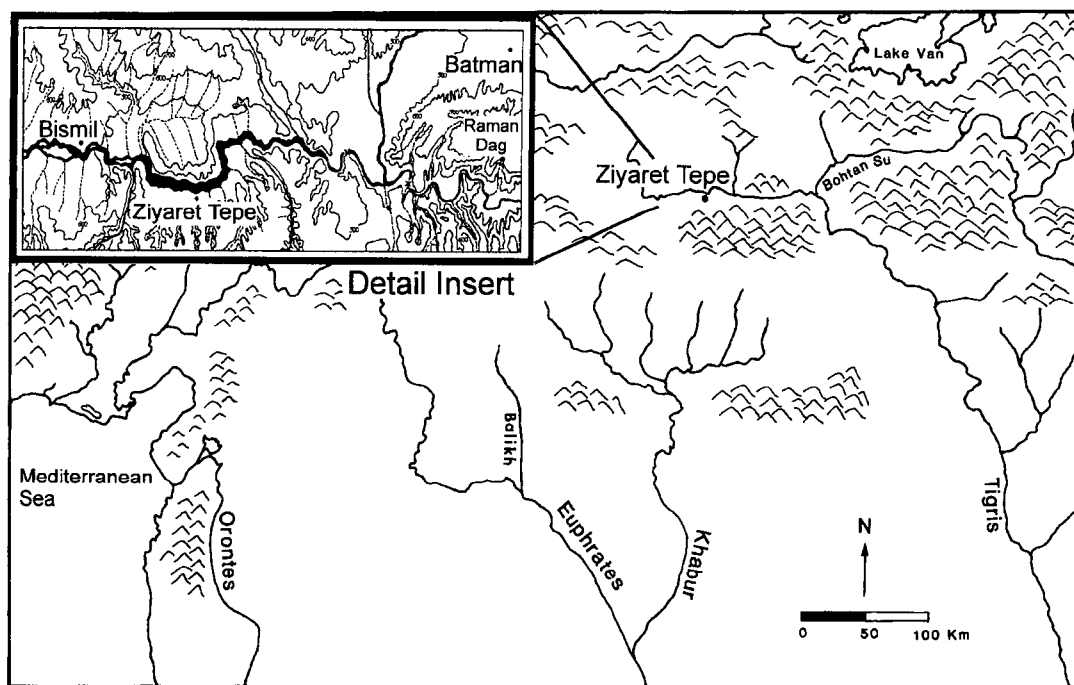


Fig. 1. Regional map showing Ziyaret Tepe in the Batman-Bismil area of Diyarbakır Province.

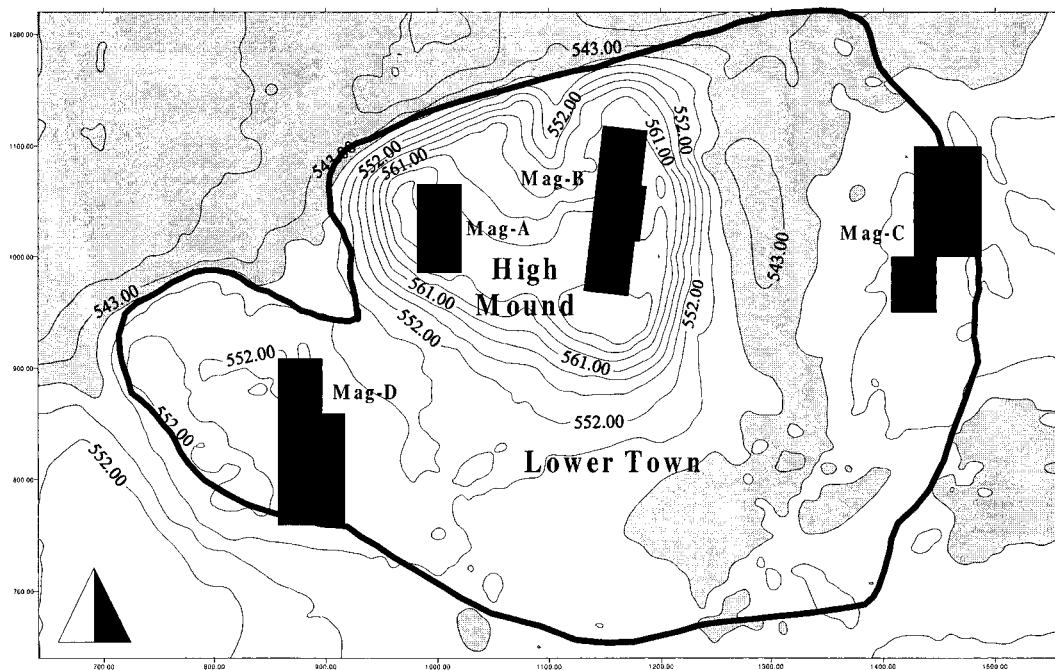


Fig. 2. Topographic plan of Ziyaret Tepe showing location of the high mound and the extent of occupation in the surrounding lower town. The areas in black show the location of the four areas covered by magnetic field gradient survey in 1998. The thick black lines denote the limit of the site at its maximum extent in the mid-1st millennium BC. Scale in meters is marked along the southern and western axes.

Date	Archaeological Period	Ceramic Types	Distribution & Occupational History
c. 6000-5000 BC(?)	Neolithic Period Chalcolithic Period	"late Neolithic/ early Chalcolithic" forms	Initial settlement of site. Small village (?) Probably near NW corner of high mound.
c. 2000 BC	////// Middle Bronze Age	"Early 2nd MBC" forms (Red-Brown Wash, Metallic, Khabur-like Wares)	Re-occupation of site. Extent of settlement did not exceed the area of the high mound. Small village (?)
c. 1600 BC c. 1300 BC	////// Hiatus ?? ////		
	Late Bronze Age	"Middle Assyrian" forms"	Expansion of settlement to limits marked on distribution maps. High mound and lower town occupied. Small urban center.
c. 1200/ 1100 BC	----- Early Iron Age	"Local Early Iron" forms	Limited distribution of Early Local Iron Age pottery may mark a brief retrenchment of site. Village (?)
c. 900 BC	----- Late Iron Age	"Local Late Iron" & "Late Assyrian" forms	Reoccupation of site on a large scale. High mound and lower town occupied. Small urban center.
c. 600 BC	----- NO OCCUPATION ATTESTED	-----	AT ZIYARET TEPE
c. AD 300	----- Late Roman Period	Roman roof tiles, "late Roman" forms	Limited occupation in lower town only. Isolated farmsteads.
	----- Sasanian Period	"Sasanian" forms	Only a few scattered sherds of Sasanian type. Isolated farmsteads (?)
	----- Islamic Period	"early Islamic" forms	Limited occupation in lower town only. Isolated farmsteads (?)
c. AD 800	----- NO FURTHER OCCUPATION	-----	AT ZIYARET TEPE

Fig. 3. Preliminary chronological chart showing the occupational history of Ziyaret Tepe.

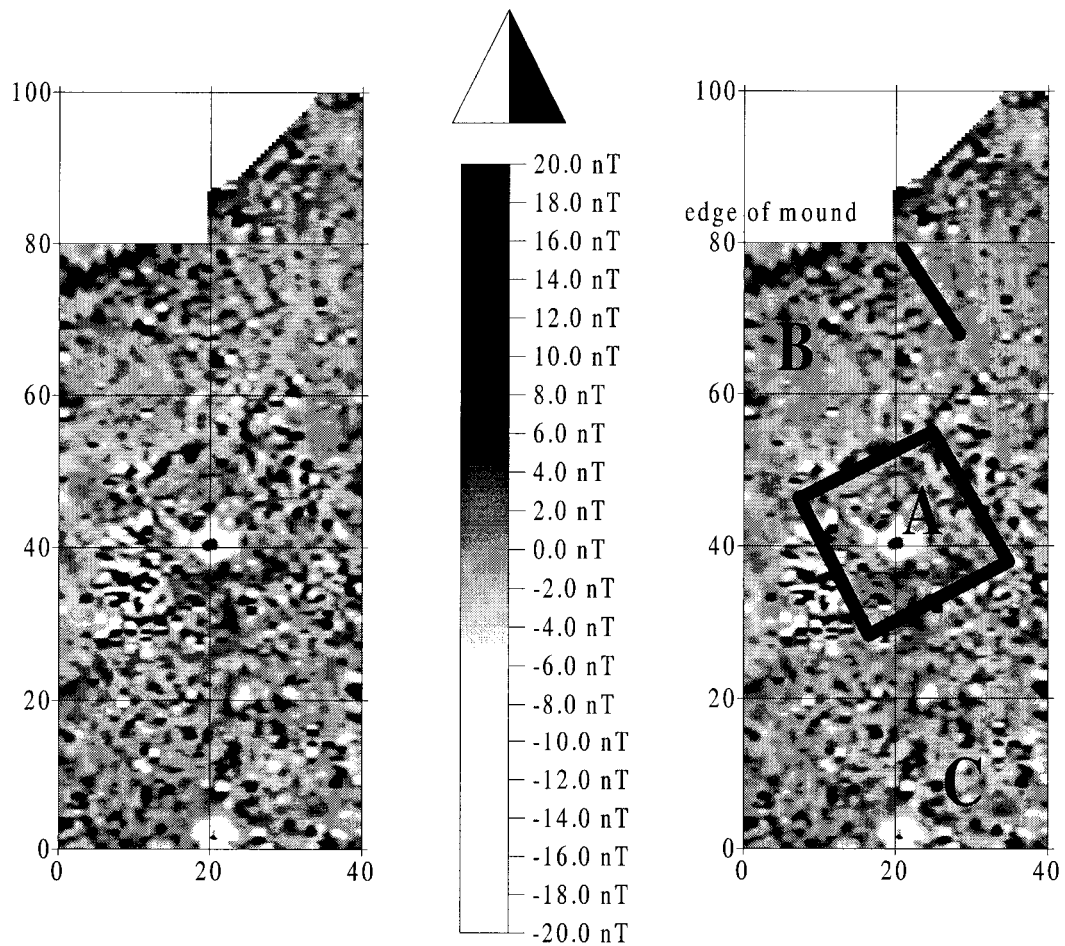


Fig. 4. Area Mag-A magnetic gradient survey map of Ziyaret Tepe. Black represents maximum positive data; white represents maximum negative data. Physical scale on plan is in meters. Image generated from clipped, unfiltered, bipolar data. Thick black lines on the right-hand image represent our interpretation of potential archaeological features.

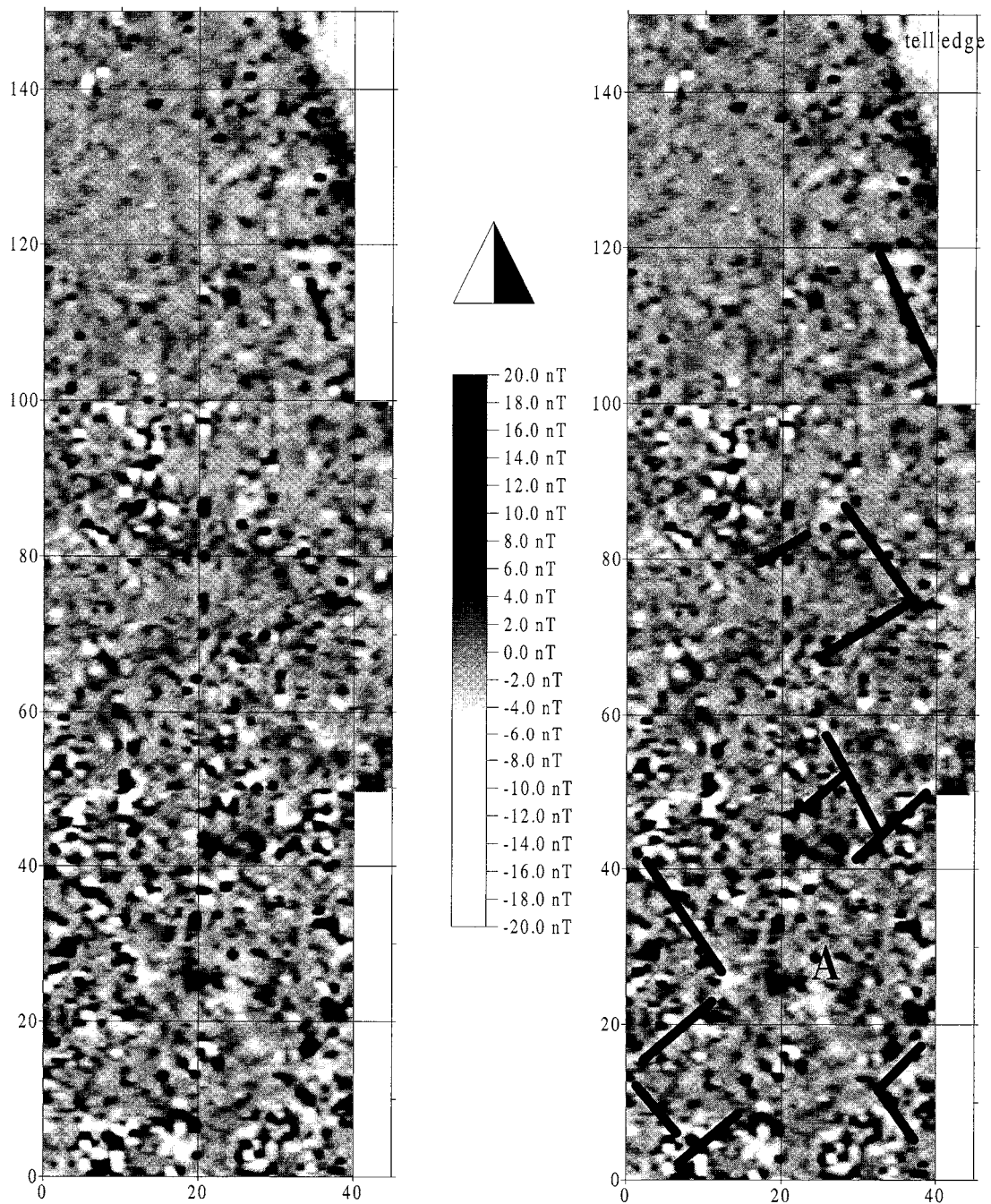


Fig. 5. Area Mag-B magnetic gradient survey map of Ziyaret Tepe. Black represents maximum positive data; white represents maximum negative data. Physical scale on plan is in meters. Image generated from clipped, unfiltered, bipolar data. Thick black lines on the right-hand image represent our interpretation of potential archaeological features.

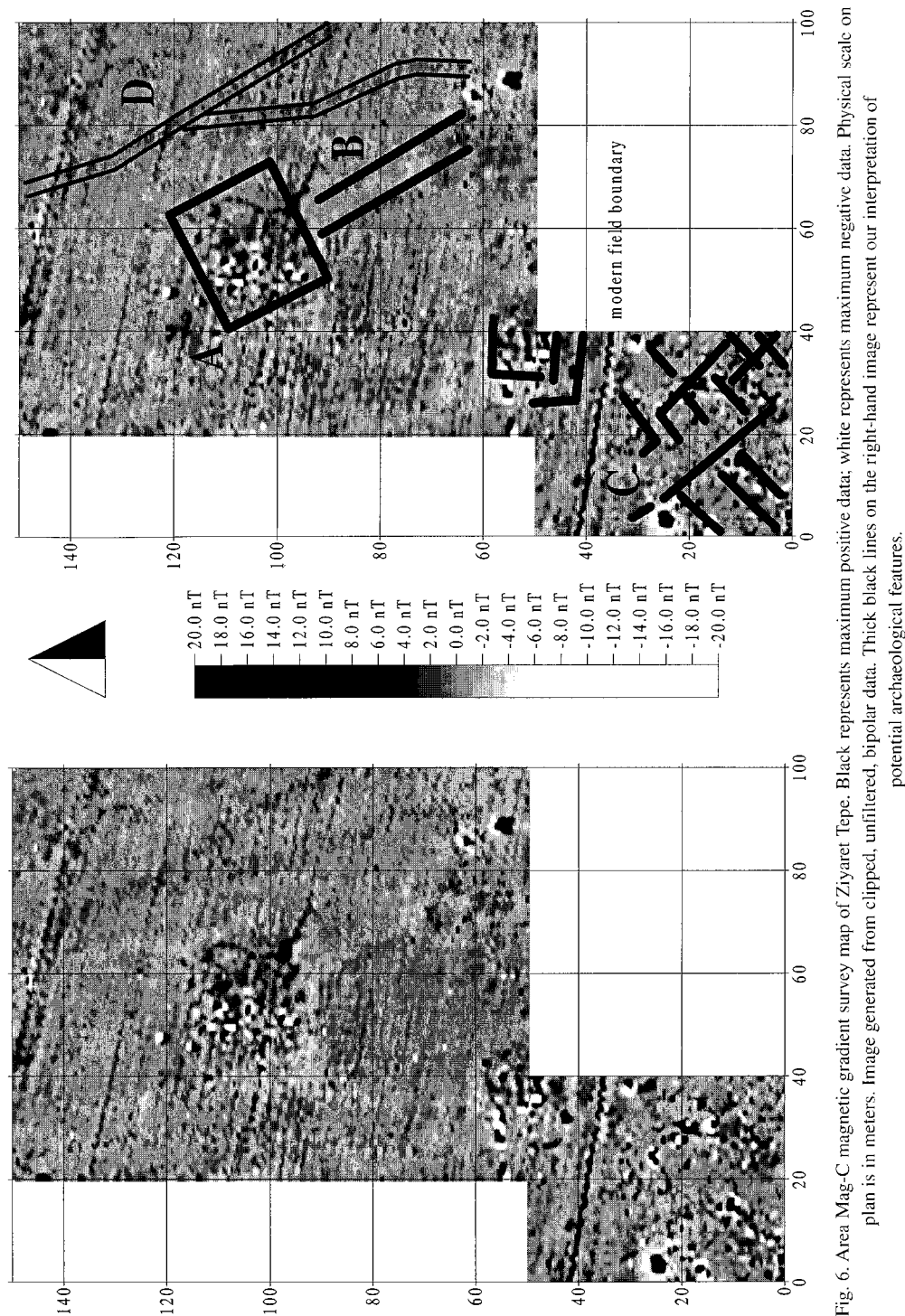


Fig. 6. Area Mag-C magnetic gradient survey map of Ziyaret Tepe. Black represents maximum positive data; white represents maximum negative data. Physical scale on plan is in meters. Image generated from clipped, unfiltered, bipolar data. Thick black lines on the right-hand image represent our interpretation of potential archaeological features.

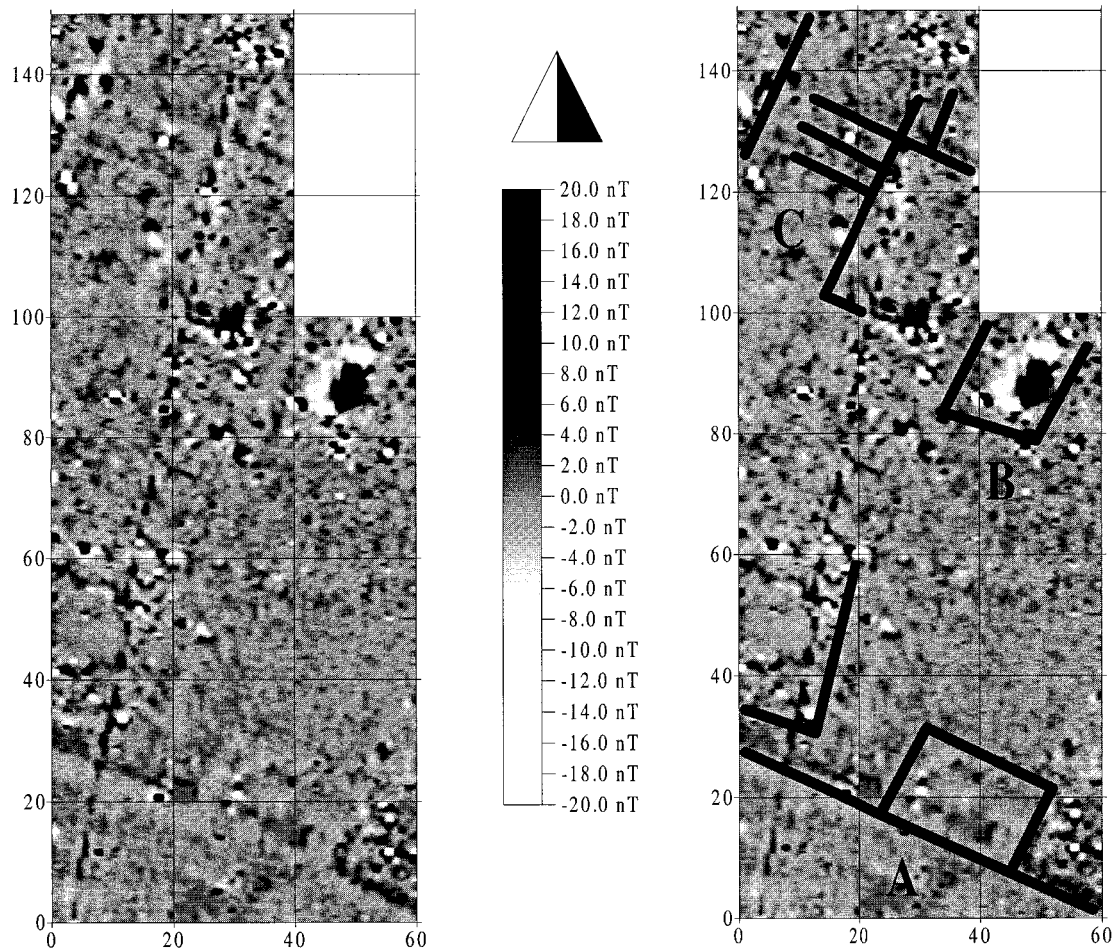


Fig. 7. Area Mag-D magnetic gradient survey map of Ziyaret Tepe. Black represents maximum positive data; white represents maximum negative data. Physical scale on plan is in meters. Image generated from clipped, unfiltered, bipolar data. Thick black lines on the right-hand image represent our interpretation of potential archaeological features.

INTRAMURAL TOMBS - A FUNERARY TRADITION OF THE MIDDLE EUPHRATES VALLEY DURING THE IIIrd MILLENNIUM BC.

Nicola Laneri¹

Introduction

During the IIIrd millennium BC almost all the Near and Middle East areas (from the Aegean Sea to the Indus Valley), after the collapse of the Mesopotamian egemony during the so-called Late Uruk period (second half of the IVth millennium BC, Algaze 1993; Frangipane 1996), experienced an increase in social stratification and complexity and a growing consolidation of the interaction between distant social and economical environments. The regional fragmentation of the economical power, through the emergence of city-states, such as Kish, Ur, Mari, Ebla, Carchemish, Kazane, allowed local cultures and societies to a better use of their environments and natural resources, distinguishing this period from the preceding one (Late Uruk), when Mesopotamian sites (Uruk and Susa) settled colonial outposts in the whole Near East for a better control on the peripheral resources, and from the following one as well (Liverani 1988; Matney and Algaze 1995; Postgate 1992). Several factors contribute to the significant transformation in the complexity of burial methods, and especially in the extraordinary richness of grave assemblages and in the practice of burial in cist graves, built within private or public buildings. These two seem to be the defining features of this archaeological period.

In analyzing the tombs uncovered in the site of Carchemish, Sir Leonard Woolley, who rightly attributes the site to the Early Bronze Age (*Early Bronze Age* - IIIrd millennium B.C., Woolley 1952), misunderstood the practice of burying of the dead inside houses as a sign of primitivism of the inhabitants of the mound, and concluded that, with the “*transformation of the mound from primitive village to a fortress or a palace or temple people should be compelled to abandon the ancient practice of burying their dead under the floor of their houses and to begin using regular cemeteries outside the inhabited area*” (Woolley 1952: 223).

Contrary to Woolley's hypothesis, recent archeological discoveries point to a cultural practice of intramural burials during the IIIrd millennium B.C.² that kept increasing propor

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² This funerary practice first appeared in the Near East during the Neolithic Age (VIth millennium B.C.), when the skulls of the dead would be buried under the calcareous slabs that made up the floors of the homes (the most important example of this practice being that of the level VI B in the Anatolian site of Çatal Höyük, Wason 1994:

tionally with the territorial expansion of the settlements. At the beginning of the 80's, the German archeological expedition directed by Behm Blanke (1984) discovered a cemetery, of the Early Bronze Age I/II (ca.3000-2700 BC), presenting cist tombs and ceramic jars of considerable size. In this cemetery, the tomb shape and size, the orientation of the bodies and of the assemblages resemble very closely those of the tombs excavated in Carchemish. The cemetery wasn't very far from the center of Hassek Höyük (along the valley of the Euphrates, some 70 km north of Carchemish). The Birecik Dam rescue excavation conducted in 1997 under the direction of the Turkish Department of Antiquities, to investigate the area of the Birecik dam, near the Euphrates valley (approximately 25 km north of Carchemish) discovered a large necropolis area, where more than 200 tombs were excavated. These tombs also presented features very similar to those discussed before (Mustafa Kemal Sertok, personal communication)³, and so demonstrated that the lack of data is to be attributed, more often than not, to the poor archaeological investigation of the area, and that during the first part of the IIIrd millennium B.C. the valley of the Euphrates saw the development of three different burial practices: a) intramural tombs, extramural cemeteries, and necropolis far from the settlement (another example is the Necropolis of the Early Bronze III-IV, ca. 2700-2400 BC, found in Tawi by a German equipe, Kampschulte and Orthmann 1984).

One discovery has to be credited to Woolley, specifically the existence of a well defined funerary culture, very much interested in the relationship between the dead and the living. This tendency, that Woolley (1952) thought would come to an end as "civilization" would take over in the Near East, instead as shown itself to grow proportionally with the expansion of those elements (such as palaces, cuneiform writing, demographic and settlement growth and social and economical stratification) that will come to exemplify the cultural *koiné* in the Near East in the following period, the Early Bronze Age (IIIrd millennium B.C.). Two factors lead us to believe that this funerary practice was restricted to a small percentage of the total population, which would have still used the more common practice of burial outside of the inhabited area: on one hand, the scant number of skeletons recovered inside any particular home (no more than ten in the same dwelling, considering a period of occupancy probably longer than 100 years); on the other hand, the percentage that this number must have represented compared to the total inhabitants of a particular building.

Distribution of "intramural tombs" along the syro-anatolian Euphrates valley

From the lowlands of Mesopotamia to the slopes of the Taurus, the highlands of Luristan and still farther north the region of western Turkmenistan, a consistent number of funerary chambers (mostly consisting of multiple burials) has been uncovered. These burials

153-179).

³ Archaeological research in this area is in progress and it is now possible that an undiscovered number of tombs are still to be found within an area of approximately 1,5 Km in length, possibly to be attributed to a much longer period than previously inferred (maybe including the second half of the IIIrd millennium B.C.). Furthermore, oral tradition points to a sacred area along the right bank of the river, where the ancient would lay to rest their dead (Gil Stein –personal communication).

were placed under the floor in domestic structures (Forest 1983; Orthmann 1980; Sörenhagen 1986; Jean-Marie 1990; Peltenburg 1995; Carter & Parker 1996). In Mesopotamia, the rich tombs of Ur, Kish, Abu Salabikh, and other city-states of the Protodynastic II and IIIrd (ca. 2650-2350 B.C.) have always been noted for their rich funerary goods (gold, silver and semiprecious stone objects) and not for the importance of their planning within the domestic structure as an ancestral temple inside the private dwelling as well as in the public (for example palaces) buildings (Woolley 1934; Moorey 1980; Postgate 1980; Forest 1983).

The hypogaeum tomb, discovered by Thureau-Dangin (Thureau-Dangin and Dunand 1936) at Tell Ahmar in the 20's (approximately 25 km south of Carchemish, on the left bank of the river) is to be considered the first example of "intramural burial" dating back to the second half of the IIIrd millennium B.C. in the Syrian-Anatolian valley of the Euphrates. The Australian archeological expedition from the University of Melbourne, which is conducting an excavation of the Neo-Assyrian levels of the same site, has reviewed the journal of their French predecessor, and in doing so, has discovered a possible relation between the Hypogaeum and the building structure, contemporaneous of the tomb, which rests on top of it (Bunnens 1990). Thanks to the intensification of the archeological investigation, due in part to the need to proceed to salvage excavation of sites that will be under water after the construction of several dams planned by the Turkish and Syrian governments in the Euphrates valley, an area that has always been considered at the periphery of the Mesopotamian cultural milieu, has revealed a concentration of intramural tombs, chronologically attributed to the second half of the IIIrd millennium B.C.

The area object of this study extends from Mari/Tell Hariri in the south (near the Syro-Iraqi border), near the interface that in the IIIrd millennium B. C. separated Mesopotamia from the Proto-Syrian cultural *facies* (where, in the 30's, André Parrot discovered three funerary chambers connected to the temple of Ishtar, Parrot 1974)⁴, to the slopes of the Taurus to the north. The funerary practice of "intramural burial" is attested in numerous sites along the Syro-Anatolian Euphrates valley, most farther north of the area that separates the semiarid region (in which Mari is located) from the continental climate region (the city of Raqqa being the ideal border town between these two ecosystems).

Burying practices vary according to the sites and the cultural-ecological niche, but as a common denominator there is the desire to express the ties with the ancestors by burying them within the domestic, palatial or temple structures.

Architectural structure

⁴ In a recent study, the French archaeologist M. Jean-Marie, after a review of the journals of A. Parrot, attempted an interpretation of the relationship between the temple and the funerary chambers, and established a possible connection between the tomb T 300 and the temple dedicated to Ishtar; for the other two tombs of the group - T241 and T242 – the scant information available about their stratigraphy doesn't allow any hypothesis to be advanced regarding their structure. However, the pictures originally taken during their excavation seem to show that the walls of the temple had been cut, to allow for the construction of the tombs; if this were the case, the tombs would undoubtedly be later than the temple (Jean-Marie 1990).

The hypogeum of Til Barsip (Thureau-Dangin and Durand 1936) and its rich assemblage (1045 vessels, from different periods, destined exclusively to the two interred bodies) exemplifies the classic architectural typology, both for the intramural tombs and the cist tombs of the period (Carter and Parker 1995) which features:

A) A single cist chamber, usually cut into the virgin soil, with walls built of squared blocks of limestone, set up as a pseudo-ogive (only in the funerary chambers in Mari, where the Mesopotamian influence is stronger, do we see an actual ogive, Jean-Marie 1990); in most cases, one or more of the walls are directly connected to the walls of the house built on top of it (a list of the *intramural tombs* in the area includes: *tomb 302* at Tell Jerablus Tahtani⁵, Syria- Peltenburg et alii 1995: 7-15, figs. 8-9; tombs B 91.76, B 93.77, B 94.55, B94.56, B 95.58, B 95.60, B 96.64, B 96.75, B96.76 at Titris Höyük – Turkey, Algaze and Matney 1995, Algaze et alii 1995, Matney, Algaze and Pittman 1997; tomb L I at Tell Hadidi – Syria, Dornemann 1979: 117-132; *Tomb 7* at Tell Banat, McClellan in press; intramural tombs at Tell Selenkahiye- Syria- van Loon 1968 and 1973; and with all probability the monumental tomb discovered at Hayaz Höyük – Turkey, even if, due to frequent flooding of the Euphrates, the upper levels have been completely destroyed, Roodenberg 1979-80)⁶ (Fig. 4).

B) A *dromos*, also cut into sterile soil, usually of a circular shape (as at Titris Höyük and Tell Hadidi, Algaze et alii 1995; Matney, Algaze and Pittman 1997; Dornemann 1988) or a square shape (as at Hayaz Höyük, Tell Jerablus Tahtani and in the Hypogeum of Til Barsip, Roodenberg 1979-80; Peltenburg et alii 1995; Thureau Dangin and Durand 1936), with a couple of steps, usually cut directly in the ground (only rarely do they have a covering of stone), which lead to the tomb, by means of a narrow and low passage, separated from the funerary chamber by a single stone slab.

C) A chamber ceiling, usually made of large rectangular slabs of stone, fitted into the walls and sometimes protruding from the floors of the room on top of it, forming a *dolmen*-like stone (Carter and Parker 1995; Matney and Algaze 1995) (Fig. 4, 6).

The funerary chamber dimensions may vary (e.g. the ones in Titris Höyük have an average length of about. 2,50 m for a width of 1,50 m, while the *tomb 302* in Tell Jerablus Tahtani has a size of 6 m x 3 m, Algaze et alii 1995; Matney, Algaze and Pittman 1997; Peltenburg et alii 1995), in relation with the socio-cultural and symbolic function of the funerary structure. It is still not completely clear though if the size of the chamber is proportionally bigger in relation with the richness of the assemblage it contains or if it represents, on

⁵ The relation between the T302 and the settlement of the IIIrd millennium BC in Jerablus Tahtani is going to be established by the excavators in the following publications; anyway the Director of the excavation, Prof.E.Peltenburg, has inferred a location of the tomb, as a monumental tumulus, outside of the private buildings but inside the settlement, becoming a sort of ancestral temple used also in the following period, the same as in Til Barsip (Peltenburg 1996 and personal communication). Because of this explanation, in this study, the tomb is to be considered an “intramural tomb”, in the sense of the cultural relationship, inside the settlement, between the living and the death.

⁶ Tombs with identical typology are also present in the necropolis (Carter and Parker 1995); examples are M 1-2, M4, M5-6 at Gedikli - Turkey- (Alkim ve Alkim 1966: fig 40), or at Oylum Höyük - Turkey- (Özgen and Carter 1990), and at Lidar - Turkey- (Hauptmann 1993).

a symbolic level, the social status of the individuals.

The basic structure of the funerary chambers can present some variations (such as a dome ceiling made of bricks, like in the descriptions given of the tombs of Selenkahiye given by M. van Loon 1973); such variations don't modify the basic function of the tumulus itself. In the case of the monumental *tomb 7*, recently uncovered by T. McClellan at Tell Banat (on the Syrian left bank of the Euphrates, approximately 30 Km south of Carchemish): the tomb contained an extremely rich assemblage (including precious and rare, for the period to which they belong, gold jewels), and the typology presents some important variations, including a higher number of rooms (six rectangular rooms, 3 x 2 m each, in three rows of two rooms each, built under a palatial structure, whose function has not been positively determined yet – McClellan, in press)⁷. The basic structure of the tomb was nonetheless maintained with the circular *dromos*, representing well constructed, bitumen-mortared stone-cut walls and chamber ceiling (nine slabs at Banat, McClellan in press) that were encased in sterile soil. At Banat, the floor is covered with tiles and bitumen. The entire structure is connected with *Level 2 of Building 7* (McClellan, in press).

The niches, along the walls of the chamber (at Titris Höyük as well as at Tell Banat) represent another variation on a well established architectural typology.

Physical Anthropology

The last decades have witnessed an increase in the analysis of human remains discovered in the region of interest of this study. Thanks to this, it has been possible for the first time to study in depth issues related to paleo-demography and paleo-pathology, such as the demographics of secondary burials.

While in some cemeteries of the first half of the IIIrd Millennium B.C. (the Early Bronze Age I-II such as Hassek Höyük, Behm-Blanke 1984) the bodies of the deceased would be laid singularly or in a group (Carchemish, Woolley 1952), in fetal position, oriented east-west and inside cist tombs (in some cases, inside jars), this phase, the second half of the IIIrd millennium BC (ca. 2600-2100 BC), sees the building of tombs inside domestic buildings, which become a sort of necropolis inside the city, with multiple burials, for groups of people presumably belonging to the same extended family. The bodies are often unarticulated, but some of the bones seem to be regularly present (in particular the cranium

⁷ The German archaeological expedition at Tell B'ia (on the left bank of the Euphrates, south of Raqqa in Syria), directed by E. Strommenger (1994: 11-21), has recently discovered a monumental tomb, with two wings, and six rooms (in rows of three, divided by a corridor) built of mudbricks and with stone floors in some of the rooms. The tomb had been built under the akkadian *Alteren Palast*, structurally very similar to Royal Palace G in Ebla. In the Ebla building, a funerary structure of considerable size has recently been uncovered, (two monumental chambers and a great *dromos*) which had been completely plundered, both of the assemblage and of the skeletons (Strommenger 1994; Matthiae 1993). Not much information has been published regarding the tomb in Tell B'ia, but the assemblage, as shown by the pictures published so far, and the relationship with the palace, suggest a typology close to that of the *intramural tomb*, with particular resemblance to *tomb 7* at Tell Banat.

and the limb bones). It is still unclear if we are here witnessing secondary burials (this seems to be the most likely hypothesis, based up on similar contexts) where the selection of the bones would have been made consciously, or if the usage over time of the chambers for multiple burials would have in itself caused the poor state of conservation of the integrity of the bodies or caused some of the bones to be thrown away as trash, to make space for the newer burials. There seems to be no distinction within the tombs on the basis of age and/or sex of the individuals, but a prevalence of adult males and females has to be noted. In specific “frontier sites” (such as Gedikli and Tilmen Höyük – Turkey –, Alkim and Alkim 1966) traces of cremation are found, which can be related to the influence coming from the central part of the Anatolian plain (Cilicia?), the practice of cremation being totally foreign to the Near Eastern culture in the Period we are considering; the practice will spread in the Syro-Anatolian area in the IInd millennium B.C. (Alkim and Alkim 1966). In some tombs is to be observed the total absence of human remains, that has been imputed to river flooding by a lot of archaeologists and paleoanthropologists.

The last element to consider is the presence, in some of the tombs, of animal bones (at Tell Banat, Jerablus Tahtani, Tell Selenkahiye, on the Syrian bank of the Euphrates, Titris Höyük along the Turkish side, and at Hayaz Höyük, on the slopes of the Taurus)⁸ which point to rituals similar to those found in Mesopotamia, where animal and possibly human sacrifices accompanied funerary rites (Woolley 1934; Forrest 1983). In some instances, animal remains were found in the *dromos* (e.g., at Titris Höyük, Algaze et alii 1995: 25, figs. 23-24).

Funerary goods

Pottery vessels, placed along the walls of the funerary chambers without a specific pattern, are by far the most common item in the assemblages, as demonstrated by the rich furnishing of the *Hypogaeum* in Til Barsip (Thureau-Dangin and Durand, 1936) where, inside a room 6 x 2.5 m, a considerable number of vessels (1045) have been discovered. Several ceramic classes were represented and they were deposited (in the west quadrant of the funerary chamber, not far from the heads of the individuals) at different times, spanning a long period of time (three or four centuries during the second half of the IIIrd millennium B.C., Thureau-Dangin and Dunand 1936; Bunnens 1990). In cases such as this, when a burial is used overtime, in rituals connected with “rites of passage” and the function of the ancestors in the community, the use of ceramic typology as a tool of analysis, both for the chronology and for the comparison of different funerary practices and realities (Carter and Parker 1995), could be misleading, inasmuch it would only generate a list of object, in itself a poor heuristic tool for the understanding of the funerary culture of that specific geographic area.

It seems more interesting to investigate a possible connection between the pres-

⁸ The data for Tell Selenkahiye it is not conclusive, van Loon 1968 and 1973; in Hayaz Höyük, on the other hand, capridae and ovines bones have been found near the human remains, Roodenberg 1979-80; in Jerablus Tahtani, bones belonging to several different species have been found (2,2 Kg total, Peltenburg et al 1995: 24), including a dog and some doves - *rock dove* and *turtle dove*- and finally, inside *Chamber F* of the monumental *Tomb 7* in Tell Banat, equid bones have been found (McClellan, in press).

ence/absence of specific vessel classes (e.g. bowls, as compared to jars) and the burying methods or if, percentage-wise, the ceramic typologies uncovered in the tombs reflect those used in the domestic and living areas in the same sites. Research on this topic has been undertaken at the site of Titris Höyük and will be shortly published by the author. It is worth noting that the pottery vessels associated with the footed cup, the first examples of which have been called “champagne cups” (Woolley 1952; Peltenburg et al 1995; Carter and Parker 1995) that evolve, during the latter part of the IIIrd millennium, into a different, more closed shape (high footed goblet), skillfully decorated (with incision and painting techniques), has been constantly found in high numbers inside the tombs, so much so as to characterize the cultural facies to which they belong (Carter and Parker 1995: 100), while is comparatively rare in domestic contexts.

Ceramic vessels are also to be found (sometimes in great numbers, as is the case in tomb T 300 in Mari, Jean Marie 1990) near the entrance, inside the dromos; this presence has to be connected in all likelihood with some kind of funerary ritual (see previous paragraph).

The burial assemblages (Fig. 3, 5) often include the classic smaller typologies (such as, simple bowls, thin ware, especially cups – these last ones typical of the period, when the so-called “metallic ware” abounds –, bottles, with or without base, jars, medium and small ones, with lid), miniature vessels (reproduction, in miniature proportions, of simple wares), a great number of the so called “syrian bottle” (egg-shaped bottles of fine ware, typical of the ceramic production of a wide geographical area, encompassing the Syro-Anatolian region from the Syrian desert to the Taurus range and from the Mediterranean sea to the Tigris river – characterized by black/gray color, three different sizes – small, medium and large – well defined grooves on the body and a rounded base) and, finally, some tripods, both open and closed shape (Carter and Parker 1995). There are also to be found some unique pieces, which seem to appear exclusively in funerary contexts. Such specimens represent usually variations on well established typologies (e.g. the double jar with taurine protome uncovered at Titris Höyük, Matney, Algaze and Pittman 1997), or testify to contacts with neighboring regions, being considered luxury goods (as in the example of the *depas* – double handle jug –, clearly of western Anatolian origin – Cilicia – found at Titris Höyük and Tell Selenkahiye, van Loon 1968 and 1973; Algaze et alii 1995; Carter and Parker 1995).

Paleo-botanical studies, conducted on the contents of the vessels of funerary provenance demonstrate that these vessels did contain remains of what should be interpreted as offerings (Peltenburg et alii 1995: 24-25); in the site of Titris Höyük the mineralized remains of a flower have been found on the rim of a bottle, near the body of one of the individuals buried (Algaze et alii 1995).

Jewels, when found, are usually deposited in close proximity to the individual, as his or her personal belongings. Bronze pins appear in the highest percentage, surely to be connected with clothing or textiles worn by the individual (Peltenburg et alii 1995), (at Titris Höyük, in tomb B 96.75, 13 bronze pins were counted, on a total of 18 non ceramic objects, Matney, Algaze and Pittmann 1997). On the other hand weapons, (such as arrow heads and daggers), which are a sure indicator of the social role of the individual (and usually to be found in male burials), are found in scant numbers (Peltenburg et alii 1995; Matney, Algaze and Pittmann

1997).

Silver objects are rare and only used for very specific objects (earrings or rings, toggle pins, Peltenburg et alii 1995) which were intended to show the differences between the individuals within the funerary goods, as were necklaces and pendants of semi-precious stones, shell (examples found both in Mari and in Jerablus Tahtani, Jean-Marie 1990: 308 and Peltenburg et al 1995: 12) or ivory, (like the plaque found in Jerablus Tahtani, Peltenburg et alii 1995: 10, fig.13). Gold is difficult to find out in these area and appears only in monumental tombs (Tell Banat, Jerablus Tahtani, Mari; McClellan, in press; Peltenburg et al. 1995; Parrot 1974, Jean-Marie 1990).

Particularly relevant are ritual objects, such as human and animal figurines (clay or stone) and stone vessels (Peltenburg et alii 1995). The figurines could have absolved the function of ex-voto, or votive offering to the divine world for having a better life in the underworld.

In numerous funerary chambers, not directly included in the assemblage, but inside the niches of the chamber itself (in the main room -room F- of the monumental tomb of Tell Banat, McClellan, in press) or in the fill (Titris Höyük, Matney, Algaze and Pittmann 1997), is often to be found a pear-shaped lead bar not longer than 10 cm and 2 cm in width, with a hook in the upper edge. It seems possible to infer that the bars were supposed to hang from the wall, given the circumstances of recovery (Guillermo Algaze – personal communication) but their function is still unclear.

The assemblage of “Tomb 7” in Tell Banat (Syria)

The incredibly rich assemblage of the monumental tomb (*Tomb 7*) in Tell Banat deserves to be examined in full, as the richest assemblage ever to be found in this area for the IIIrd millennium B.C. In the first three rooms (A, B and C) the objects usually associated with this typology of burial (ceramic vessels, bronze pins) are found, with the significant difference of the presence, inside rooms A and B of *pieces of wooden furniture* (McClellan, in press) and one “syrian bottle”, with a special superficial treatment of stone beads and shell fragments, attached probably with bitumen to the surface of the bottle.

To enter room D, where a low alabaster table, some golden medallions of exquisite manufacture and lapis-lazuli were uncovered (McClellan in press: fig. 9), one had to go past a wooden door, while access to room F, on the north side, was through a short hall (E). The assemblage present in room F, the largest of the funerary complex, is by far the most impressive (stone eyes and hair pieces, of the kind found in Ebla, Tell Brak and Mari, stone figurines, bronze pins with bird-shaped heads, ceramic vessels with gold, lapis and shell decoration, a vase *made of ostrich egg*, and an abundance of beads and pendants made of lapis, gold, and bronze, McClellan in press). The presence in this room of *pieces of furniture* and of a wooden coffin (the condition of the wood was very poor, nevertheless it was possible to obtain samples for C14 dating), which contained some of the aforementioned objects, make this find an unique case in the funerary culture of the Ancient Near East (from Mesopotamia to Eastern Anatolia) of this period (Woolley 1952; Carter and Parker 1995).

The example of Titris Höyük (Turkey)

Private dwellings of the second half of the IIIrd millennium B.C. are very poorly attested in this area, which makes all the more important the archaeological investigation at the site of Titris Höyük, which is located 45 km north of the town of Sanliurfa (Fig. 1). The site is situated a few kilometers from the Euphrates River along the banks Tavuk Çay tributary of the Euphrates River. Started in 1991 by a group of north-american archaeologists directed by Algaze (University of San Diego) and by Matney (Whitman College), this investigation was focused on the retrieval of architectural structures in the *lower and outer town* around the main mound, where one would expect to find the palaces and temples.

During the course of the IIIrd millennium B.C., the site was occupied for at least 300-400 years (from 2600/2500 to 2200/2100 B.C., Algaze and Matney 1995: 33), when it experienced a significant expansion (from a small size, still not recognizable from the archaeological investigation, to approximately 45 ha. during the last Phase, *Late Early Bronze Age*), becoming, for a short period of time, the regional capital, involved in the commercial exchanges between the area laying to its south and the Taurus region, where it got most of the raw material, such as metals (copper, silver, tin) and wood, and other it needed (Algaze 1993; Algaze and Matney 1995). In the first period (2600-2400/2350 B.C., *Mid-late Early Bronze Age*), when Titris Höyük was a small size site (with occupation both on the acropolis and in the *outer town* and the *lower town*), the funerary practice consisting of burying individuals in multiple burials in cist tombs located outside the city, in a necropolis approximately 400 m West of the town itself; data on the distribution of the tombs are scarce, but it seems possible to infer a cluster type pattern⁹.

The first phase of the *Late Early Bronze Age*, sees the first expansion of the site (probably starting from the *outer town*) and the increase of the practice of burying the dead closer to the city (in tombs built much the same way of the intramural tombs dealt with in the present study).

During the following phase (*Late Early Bronze Age*, Matney and Algaze 1995), which witnesses the greatest territorial expansion and the starting of professional specialization (evident in the clearly planned city layout and in the presence of diverse domestic structures, where one can find plastered basins, probably used for wine production, weights for weaving, "cananean blades", and tools for metal working – stamps, some with impressions of god figures – Matney, Algaze and Pittman 1997), the practice of burial in "intramural tombs" becomes increasingly common, as testified by the presence, in almost every domestic structure, of a cist tomb¹⁰, in areas of development where the previous intermediate phase had seen the construction of tombs (Fig. 2, 4). This circumstance seems to point to a strong cultural

⁹ The tombs excavated so far (Algaze et alii 1995; Matney & Algaze 1995) were in very poor conditions, because of modern destruction; the final report of the excavation previously conducted in the necropolis by the German mission, conducted by Prof. H. Hauptmann, is of imminent publication, and will hopefully widen our knowledge of the area.

¹⁰ So far, nine tombs of this kind have been discovered, the highest number ever found in the Near East for this period.

connection between the two phases, also proven by the fact that in the following phase of almost total abandonment of the site, this area is again used as burying grounds, in pits or *pithoi*, of numerous bodies. Still, it is not always easy to establish a relation between the tomb and the domestic structure; for example, in one case the tomb is contained within a courtyard (example from the *outer town*, B95.60, possibly also tombs B 91.76 and B93.77 are inside a courtyard, in the area 69/54), while in the majority of the cases the tomb itself is to be found under a small room, that covers it almost completely (B96.75, B96.65, B94.56 in the *lower town* and B94.55 in the *outer town*).

The architectural typology (Fig. 4) closely resembles the one previously described (with an orientation south-north), with the stone walls within a structure cut from sterile soil and a semi-circular *dromos*. All the funerary chambers lean against the walls of the domestic structure, with the ceiling, made of well cut stone slabs protruding from the floor, in the fashion of a tombstone (as in tomb B94.55 in the *outer town*, where the slab, part of the ceiling, has probably been removed during subsequent phases, Algaze et alii 1995).

The *dromos*, entry way to the funerary chamber, represents symbolically the last meeting place for the dead and the living, the place to deposit sacrificial offerings, in the form of animals offerings or ceramic vessels, (the *dromos* of tomb B94.56 includes a small step cut on the virgin soil, where some vessels and capridae bones were found)¹¹. Entrance to the chamber is through a small-sized door (1.50 m high and 1 m wide), with a door lintel and a step threshold, both made out of stone. Inside the chamber, the different layers of deposition are easily recognizable, with the accumulation strata interspersed between one burial and the next. In one case, to allow for more space, a pit was excavated in the floor and directly in the sterile soil, to accommodate first the human remains, and later, even part of the assemblage (B96.75)

As a rule, the bodies and the burial goods were in different locations, with the bodies in the center of the chamber, and the goods along one side.

Only rarely are the bodies still whole; this circumstance is probably due to the practice of secondary burials and the accumulation of the bones of the different individuals (in B96.75 only the lower part of body, the longbones, was not unarticulated, while the majority of the bones of the individuals previously buried were located in a pit excavated in the south-western corner of the chamber, which also contained grave goods, Fig. 5; in B95.84, the crania were in the south-eastern corner of the chamber, together with the pottery, while the limb bones were scattered around, probably because of water infiltration). Of all the bones, cranial bones are constantly found, while for the rest of the body, we see a prevalence of leg and arm bones (femur) and pelvic bones, but there seems to be no specific recognizable pattern. A more detailed paleo-anthropological analysis is currently being conducted by Deidra Honca (of imminent publication) and will deal more in detail with such aspects. The number, sex and age of the individuals vary according to the tombs, and there seems to be no

¹¹ Outside some of the chambers (B96.65 and possibly B91.76) jars containing human remains have been found, seemingly an integral part of the funerary structure that included the *dromos* and the chamber.

clear distinction between the tombs¹². It is evident that the low number of burials, compared to the long period of occupation, points to the possibility of the existence of an extra-mural necropolis, contemporaneous with the practice of intramural burials.

Inside (Fig. 3, 5) the funerary chambers of the nine excavated tombs, the assemblages mostly consist of ceramic vessels (bowls, cups with superficial grooves, “syrian bottle”, globular vases, miniature vessels, globular bottles with long and short neck, jars, goblet with tall stem, with incised and painted decoration on the shoulder – as we have seen, the evolution of the “champagne cups” –, small *ollae* with rope decoration and in the majority of cases, with painted or incised decoration on the body – the evolution of the previous “four lagged jar” – and lid), representing up to 80-90 % of the total assemblage. We also find unique pottery objects (tomb B96.75 presents a two small jars with rope decoration, of the type already mentioned, joined by a taurine figure, similar to another one found, out of context, near tomb B96.64, in very poor conditions of preservation, Fig. 7; in tomb B96.64 a trilobal jug with a rope handle was found; tomb 95.60 had a *depas* with two large handles, certainly of anatolian origin – another example was found, out of context, outside tomb B96.64 – a jug with handle and animal-shaped spout and two vases joined along the sides). A chalice of basaltic stone, with cylindrical stem, is to be ascribed to the same category of unique objects (chalice found inside tomb B96.75).

The rest of the assemblage is usually made up of plain shape bronze pins, placed near the body. Some objects seem to be indicative of the sex and the social role of the individuals to whom they belonged; to this category probably we must ascribe the necklaces and the pendants (made of shell and semiprecious stones), as the weapons that are surely indicators of the burial of a male, because a bronze dagger has been found under the cranium of the only partially complete skeleton – of an adult male – in the funerary chamber of tomb B96.75; a large spear-point was found in tomb B96.65, Fig. 8). Also gender indicators are the earrings (in one case silver earrings) and rings made of bronze. In two funerary chambers (B94.56 and B96.75) some lead objects have been found, of unknown function; they were found in the fill of the funerary room, and their shape (with a hook-shaped end) should point to a function connected to the walls, possibly as hanging fixtures of some kind.

Discussion

The evolution of funerary practices in the course of the IIIrd millennium B.C. in the Syro-Anatolian section of the Euphrates valley testifies to the transformation of the rituals, as indicated by the shifting in the location of the burials.

Following a first stage, when small communities would bury their dead in a necropolis located outside the settlement, which does not indicate a differentiation of social strata

¹² 3 individuals in B94.55, (?); 2 adult individuals in B94.56, (?); 5 individuals in B95.58; - 1 infant and 4 adults 4 individuals in B 95.60 (?); 1 adult individual in B96.64; 9 individuals in B96.65 - 1 infant, 8 adults (1 male); 7 adult individuals in B96.75 (4 males, 2 females, 2 undetermined); in B91.76 and in B93.77 the condition of the bones was too poor to warrant an analysis.

(Behm-Blanke 1984), we meet a stage of greater development of the necropolis structure and complexity, reflecting a greater social stratification, as it is possible to see also in Titris Höyük and in Lidar Höyük in the Turkish area (Algaze et alii 1995; Hauptmann 1993). In this stage the necropolis is still extra-mural, and it is only in the third stage (2500/ 2300-2100 B.C.) that there is a radical change of the funerary rituals connected with the “rite of passage” of death. This change interests only the wealthiest members of the community and consists in the practice of burial inside the walls of the town, according to a ritual that had already sporadically been used in the area in previous times (as in the tombs found in Carchemish, Woolley 1952). The change does not affect the usual burial practices in the outside necropolis, where the majority of the population is still buried (Tawi and Tell Halawa, Orthmann 1980 and 1981; Kampshulte and Orthmann 1984). The main tombs, belonging to the most influential members of the community, were built inside the walls, to signify the right of property that these individuals exerted over the household (private dwellings and/or palaces), and consequently the control they had over its inhabitants.

Border regions are probably more heavily influenced by the new ethnic groups, as is proven by the practice of cremation, which is totally foreign to the Ancient Near East in this period, at the sites of Gedikli and Tilmen Höyük (Southern Anatolia, Alkim and Alkim 1966).

In this phase, the intramural tomb becomes:

- a copy of the domestic dwelling (with the *dromos*, the entrance door and the room itself) and in particular of that part of the home which is depository of the socio-economical and ideological-ritual values that are expressed through the archaeological material cultural specific to the region (Kristiansen 1984);

- a small ancestral temple, where to bury the individuals of the family of highest lineage (Kus and Roharijaana 1987);

- a place that testifies to an affiliation to the group and stands as a *social territorial marker* (following Kristiansen’s theory on megalithic tombs, Kristiansen 1984: 80);

- a way to keep in contact with the dead, by enhancing, through spatial proximity, the feelings of separation and despair typical of the ritual moment of the “rite of passage” (Huntigton and Metcalf 1979; Morris 1987; Bloch 1989);

- the legitimation of the transfer of power (inheritance) within the group (Hodder 1984; Kristiansen 1984: 81; Bloch 1989);

- the attempt to reconstruct a family tree that includes the ancestors (Bloch 1989).

These hypotheses of interpretation can be reconstructed from the analysis of archaeological evidence and the comparison for funerary practices in different communities in the Near East (from the Aegean of the Early Elladic II and the Middle Elladic, Massimo Cultraro, personal communication – to the Trans-Caucasian region, Biscione and Bondioli 1989 – from the second half of the IIIrd millennium BC), with particular focus on the Syro-Anatolian section of the Euphrates valley, and those ancient communities (such as those that produced the monumental tombs in Neolithic Denmark and Northern Europe, Kristiansen 1984; Hodder

1984; Bradley 1998; the funerary cultures of Southern Spain of the IIIrd and IInd millennium B.C., Chapman 1990: 169-210; Çatal Höyük, Wason 1994) and ethnographic realities (Huntigton & Metcalf 1979; Hodder 1982; Kus and Roharijaana 1987; Renfrew 1987; Bloch 1989; Wason 1994) that present similarities with the rituals connected with the “intramural tombs” of the Near East.

This set of data is difficult to interpret, as is common for archeological data, because of the almost total lack of specific information on the rituals connected to the use of these tombs, rituals that surely presented significant complexity, as is evident from some elements, such as the mixed use of primary and secondary burials even within the same tomb, or the continuous offerings, after the burial, in the form of sacrifices and offering of objects.

Such display of energy in the ritual of burial, in the construction and preparation of the funerary chamber and in the burying practices themselves, (Wason 1994: 71) points to a strong attachment to the group, as often happens in cases where we witness the presence of multiple or monumental burial sites (Tainter 1977; O'Shea 1980; Pader 1980 Kristiansen 1984; Parker-Pearson 1984; Chapman 1991; Wason 1994). This is not, though, a reliable indicator of a transformation in the social-rank (as Wason, who considers the transformation of burials from collective to individual as an indicator of the social stratification within the community, Wason 1994: 89-92), as the archeological data (specialized working areas, development of mass-production tools – such as the pottery wheel – delimitation of public areas – palaces and temples –) and the textual data (professional distribution in the economic texts) seem to point to a generalized increase in the social complexity and stratification at the very same time when the use of “intramural tombs” is particularly widespread, as a funerary practice. On the contrary, this seems to be a strong indicator of the importance of funerary practices in the definition of the ideology and the religious and secular aspects that influence any given society, in particular with regards to the development of a representation of the ultimate “rite of passage” represented by death (Huntigton and Matclaf 1979; Hodder 1982, 1986; Morris 1987; Bloch 1989).

The funerary practices investigated so far rapidly and completely disappear during the course of the following phase (latter part of the IIIrd millennium/beginning of the IInd millennium B.C.) when, due to a sudden collapse of the economic structure, still partially unexplainable (maybe due to a period of desertification, Weiss et alii 1993), we witness a radical transformation of the funerary practices, with a significant impoverishment of the assemblages and the typologies of tomb structures (the only remaining typologies left being the cist tombs, the pithoi and the pit tombs), still located, as a link to the past, inside the now unused city walls (Schwartz 1986; Carter and Parker 1995).

Acknowledgments

My best due are to Prof. Guillermo Algaze (University of California, S. Diego - USA) and Dr. Timothy Matney (Whitman College, Walla Walla - USA) to the opportunity given to me to study the “intramural tombs” in Titris Höyük (Turkey); to Prof. Bruno D'Agostino for his help at the *Istituto Universitario Orientale di Napoli*; to Alessandra Asteriti for her perfect

translation from the Italian version of the article; to Dr. Gil Stein and Massimo Vidale for their friendly help during the revision of the text.

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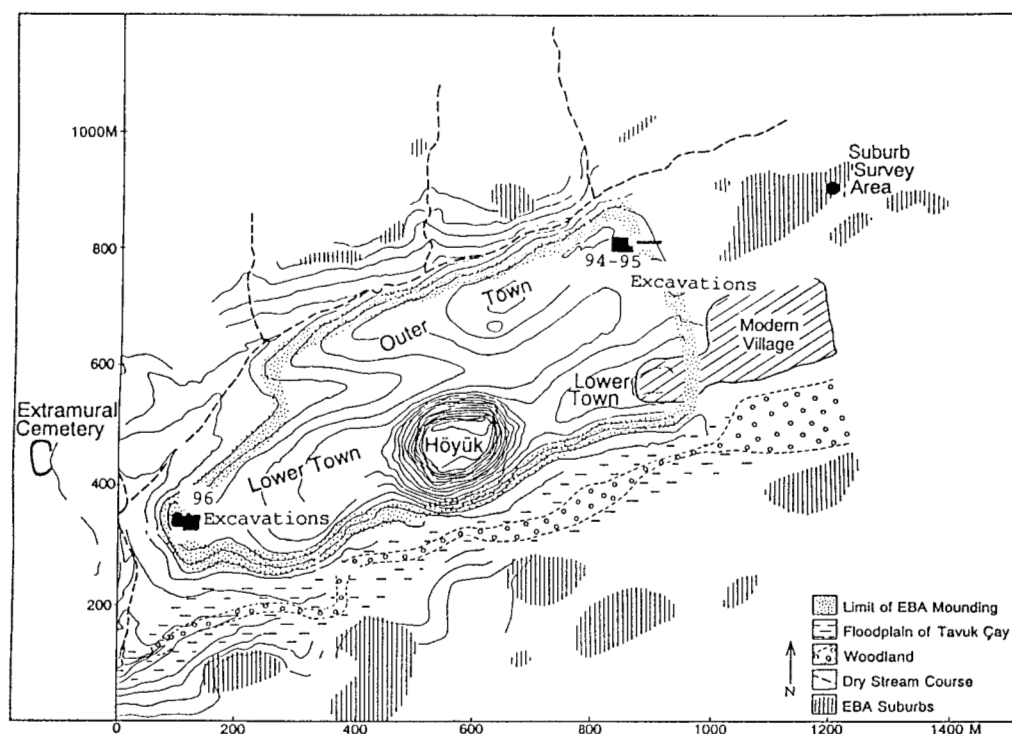


Fig. 1. Plan of Titris Höyük (Turkey) showing the morphology of the site and the 1994-96 excavations area (Matney, Algaze and Pittman 1997)

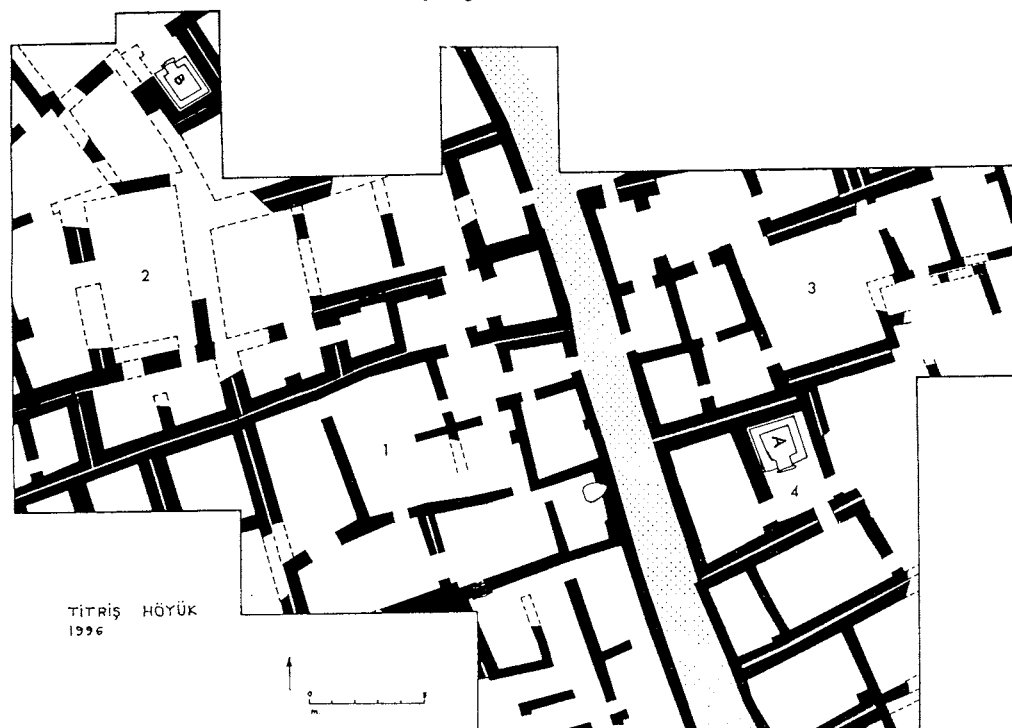


Fig. 2. Titris Höyük (Turkey), Lower Town. Plan of architecture (private dwellings and intramural tombs) of the Late Early Bronze Age phase, excavated in 1996 (Matney, Algaze and Pittman 1997).

A – Tomb B96.65 B – Tomb B96.75

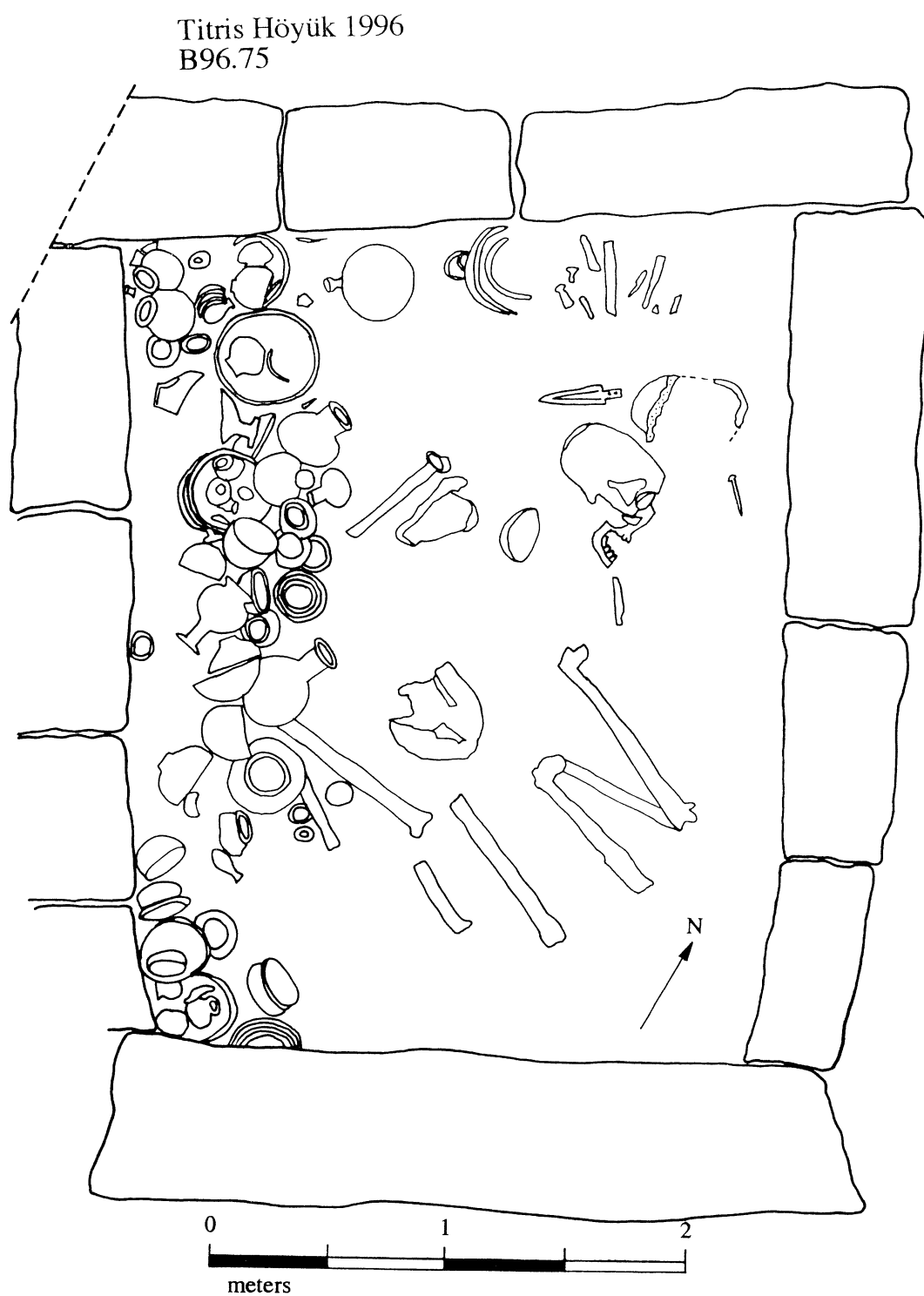


Fig. 3. Top plan of intramural tomb B96.75 in the Lower Town, Titris Höyük (Turkey).



Fig. 4. Tomb B96.75 (Titris Höyük, Turkey), view toward the south showing the exterior capstones and the disturbed walls, running South-North, of the urban architecture (Neg. 85-06/18).



Fig. 5. Tomb B96.75 (Titris Höyük, Turkey), view from North showing in situ human bones and funerary goods (Neg. 96-09/19).



Fig. 6. Tomb B96.75 (Titris Höyük, Turkey), view from South showing the big capstone used as door and the entrance of the intramural tomb (Neg. 96-10/34).



Fig. 7. Vessel made of two small jars with rope decoration joined by a taurine figure (TH 63170), part of the funerary remains in the intramural tomb B96.75 in Titris Höyük, Turkey (Neg. 97-01/09a).



Fig. 8. Bronze dagger (TH 63201) found below the skull in tomb B96.75 in Titris Höyük, Turkey (Neg. 97-03/1a).

WORLD MARKETS AND THEIR IMPACT ON TURKISH WEAVING: Understanding Cultural Transformation

Marlene Breu and Ron Marchese¹

Over the course of the past twenty-five years a cultural transformation has taken place in Turkey. Overshadowed in recent years by the confrontations between secularists and Islamists, personal rivalries in political parties, an unchecked inflationary spiral, and social concerns associated with an uneven distribution of wealth, this cultural transformation has garnished limited attention in the scholarly community. It is, however, worthy of analysis, especially in understanding culture change, general processes of acculturation, and what happens to those elements of human culture that are defined as *traditional* when they are thrust into a much larger economic realm divorced from their regional or subregional attachments.

The marketability of goods or products in a broad economic exchange system introduces regional material elements to a larger clientele that is not necessarily interested in why those items were produced, or their functional use within the indigenous culture that produced them. External markets can dictate trends or have impact in altering the production schema of objects in demand. It is through a formalized process of procurement and distribution that cultural alterations take place. In order to fully grasp the process of culture change in antiquity, a modern case study is important in that it provides a "living" example of a current "archaeological" culture under transformation. This is readily seen in the integration of Turkish society into a more global economy and the impact this has had on items that are usually considered staples of Turkish folk culture – Anatolian carpets and flat weaves.

The focus of this paper is to understand the role the merchant plays in the cultural heritage of an indigenous society. The term *merchant* has various historical meanings. It is used here to designate an individual involved in an economic exchange system – between producer, procurer, and consumer – for the expressed purpose of generating profit. The merchant procures merchandise either directly from a source, or from another individual who acts as procurer. The procurer's activities form an hourglass configuration of distribution from producer to consumer, or more precisely, from wholesale to retail via a middleman. Each component of the system, however, can change – wholesalers become retailers

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and retailers wholesalers, depending on shifting market conditions and the general demands on objects under procurement (Plates 1 and 2).

This simplified model of a procurement based economic activity – no matter what item is being exchanged – is also important in the alteration of the products procured. The merchant acts as a source of knowledge on external market conditions: changes in product demand, changes in stylistic interpretation, or changes in the general appearance of the product. The role of the merchant in post-1980 Turkey has had a major impact on the continuance of traditions that have always been associated with handicraft industries. In many respects, the merchant is now pivotal in the maintenance of *traditional* Turkish textiles.² The exchange system of the past that involved transfer of goods, especially woven goods, from village production to regional wholesale/retail markets is now influenced by global concerns. There is now a wide distribution of traditional Turkish handicrafts, especially carpets and kilims; the former having a lengthy history of limited export from the fifteenth century, while the latter appears as a late twentieth century phenomenon associated with the collection of tribal artifacts.

Prior to 1960, Turkey was predominantly a rural society somewhat isolated from both a regional and global economy. Items were produced with readily available raw materials in order to satisfy local needs within an economy of state monopolies. Cooperation and interaction satisfied societal needs in a subregional context. Fibre was used to produce objects such as carpets, rugs, bags, covers, and clothing needed in and around the home (Landreau, et al. 1983).³ In addition to their practical use and purpose, items were invested with meanings that had common understanding within Turkish culture. Objects were produced to meet the space requirements of family dwellings, either in a permanent context or within a semi-nomadic lifestyle (Marchese 1991).

Recent developments in Turkey account for the evolution of textile production and acquisition of objects from everyday use to a commodity of exchange. Traditional ethnographic materials have been replaced by *econo-ethnographic* objects that have value

² The term *tradition* has various meanings. We define it here as an element of human society that has some association with the past in production, use, or design and which is drawn from a narrow social context of family, clan, and tribe (Shils 1981). It is that part of human culture that is handed down or was in existence prior to contemporary society.

³ Globalization of the Turkish economy began in the 1970s with the introduction of "modern" conveniences - plastic, spun nylon sacks and bags, vinyl belts, suit cases, plastic shoes, and other non-biodegradable items. The handicrafts that existed prior to their introduction, usually summed up in a "tinker's trade", disappeared. Such conveniences have affected the social and cultural make up of the country. A large gypsy population now exists in Turkey. They occupy an important position in the economic environment by collecting recyclable materials for remanufacture. A class of "untouchables", they practice their craft in the large metropolitan areas of Turkey while remaining detached from the general population. Once associated with agricultural enterprises, family groups supplement their income by collecting recyclable materials. Their encampments are unique and quite distinct with an assortment of discarded materials placed in catchment zones along the major roads. This is especially evident in and around Antalya in southern Turkey.

in a larger market environment.⁴ Paradoxically, this has contributed to the continuation and availability of selected textile objects that might otherwise have disappeared in a market-oriented economy where consumer demands dictate production.

The most critical factors that have brought about these changes are improved infrastructures, emerging markets for agricultural products, and increased tourism. Secondary factors that influence carpet and rug commercial enterprises are a dwindling supply of antique Turkish carpets and kilims, curtailment of the antiquities trade, and the influx of antique pieces from Central Asia and the Caucasus that have replaced demand for Turkish production. As a consequence of the foregoing factors, the merchant serves today's market in a different manner than his predecessor. Items with a long traditional heritage are contracted for production and distribution beyond the cultural, political, and economic boundaries of Turkey and the Middle East. To meet the demands of the marketplace, some merchants have become businessmen/entrepreneurs while others have consolidated their enterprises to distribute goods without altering the material characteristics of the object. They are culturally passive to the defined heritage of society, selling to a select clientele who wish to purchase ethnographic items. There is no emphasis on production. The emphasis is on procurement of goods that have value and the distribution of those goods to a clientele that wishes to possess them. Their role has little impact on tradition except to transmit knowledge, or what they believe is knowledge, of the items they are selling.

The businessman/entrepreneur, however, moves beyond the level of simple procurement to a position of production. This influences the traditional cultural heritage of the product since the entrepreneur takes an active role in redefining the object's cultural characteristics. He defines objects according to their marketability within a larger domestic or international market. Foreign markets affect shape, surface design, and use of colour. The dimensions of carpets and kilims made by nomadic, semi-nomadic or sedentary peoples are often not suitable for modern dwellings. In the past, objects that did not fit the dimensions of the rooms of the American or European nouveau riche were simply cut down to size. Today, proportions of newly made products are standardized to foreign households, having been dictated by the touristic consumer who is seeking a specific product.

The impact on uses of colour is also pronounced. Colours once dictated by the sources from which they were made – either natural dyes or chemical compounds – are eliminated in favour of colouration dictated by the foreign consumer who is seeking objects

⁴ As with the term culture, *ethnographic* has varied meanings. We use it here in a simplified manner, especially when it is applied to a carpet tradition, to denote items that are specifically constructed for noncommercial, familial needs only. Silverman (1993, 9) states that "ethnographic [carpets] are likely to be oddities, one-of-a-kind" and are the result of "a long, unvarying tradition". We add that ethnographic also refers to those objects that were produced for personal use only and contain within their design, production, and function symbols of human behaviour commonly understood by members of the requisite cultural group. An *econo-ethnographic* cultural system includes those objects produced by traditional methods, but under external market pressures divorced from the native culture. Such items may or may not be *traditional* in their design, colour, configuration, or function. They can also be exact copies of traditional ethnographic items, but produced for trans-regional consumers.

that fit a preexisting colour scheme.⁵ The effect on surface design is the most noticeable change in carpets. Simplicity of design is determined by two mutually exclusive sources. It is dictated to some degree by the tastes of the foreign consumer and largely by the weaver who refuses to produce complicated patterns that limit productivity and, therefore, revenue (Plates 3 and 4). This simplicity of pattern along with the loss of traditional *abraş* or variations in colour tone, results in a loss of field or dimensionality.⁶ Econ-ethnographic processes also insist on perfection of design. While good workmanship and good design were the end result of the training of young village women, the emphasis on absolute perfection was minimized. In fact, ethnographic pieces suggest an attempt at purposeful imperfection or asymetricism and may be part of a mythological construct in which the perfection of God is not to be superseded by the imperfections of humans.

⁵ Much research on the use of colour and natural dye has only recently been initiated. It must be remembered that in a semi-nomadic tradition colour combinations may vary according to available plant communities. This is also the case for the early appearance of chemical dyes, that is availability in frequented markets where synthetic dyes were sold. It was not uncommon for nomadic groups to produce items with different colour combinations but with the same geometric design due to their migratory patterns. Objects produced in the summer may have been radically different in colour from those produced in the winter.

⁶ Interviews were undertaken with merchants between 1991 and 1998 in a variety of locations throughout Turkey. Most merchants interviewed possessed moderate sized production facilities utilizing four hundred looms or less and a limited number of weavers. Some merchants initially focussed on the revitalization of the older motifs, that possessed deep historical meaning, especially those associated with the ancient centres of carpet production - notably Uşak, Gordes-Manisa, and Konya. Initial production imitated examples taken from the Islamic Art Museum in Istanbul and those examples that are well documented by the Flemish masters of the fourteenth through sixteenth centuries. When valuable ethnographic items were not available, procurement based enterprises made the transition to an active entrepreneurial based economic system. The focus was still on quality reproduction of antique items as textile art. The increase in tourism in Turkey in the 1980s accelerated the movement from passive to active cultural endeavours. Consumers demanded specific dimensions, characteristics, and colour combinations that were not found in traditional carpet productions of the past. Uniqueness of design and colour was replaced by a need for volume. Highly detailed Uşak pieces and ancillary traditional patterning was abandoned in favour of simplified computer generated designs that could be manipulated in order to meet changing market conditions. Every aspect of production was "costed out" in order to maximize profit. The result was standardization - proportional configuration and patterns that conform to modern living space and colouration to meet the requirements of fashion-generated schemes. Complicated designs were replaced by simplified patterns. The weavers, many disengaged from their familial symbolic heritage, consciously rejected complicated patterns in order to increase productivity. In fact, many of the merchant imposed patterns were far removed from the repertoire of designs associated with the employed groups. Weavers simply became contract labourers removed from the cultural heritage of their predecessors (Plate 5). Weaving locations were also centralized away from the home and the general routine of the family. Weaving is, thus, detached from the cultural system of weaving; replaced by narrow economic market conditions and concepts that stress "modernity". Symbolism, an integral part of weaving as a social marker of human identity, is lost as is the oral tradition that binds the weaver to the object produced and her position in society. A selective commercial tradition, therefore, is established that replaces more ancient concepts of cultural identity and spiritualism summed up in a variety of shamanistic motifs. In this manner new cultural elements are created, but they are detached from the living heritage of the past except in the process of production, for example, tying knots of coloured yarn.

Market factors and a general movement towards globalization of the Turkish economy have had enormous impact on the traditional value system and cultural heritage of Turkey. In many respects the insular aspects of Atatürk's republic have been superseded by forces that are distantly removed from the geopolitical and economic processes of the Middle East. In the post-1980s Turkish Republic, globalization has created an economic and social crisis, if not a crisis of culture and cultural identity. Where does modern Turkey belong? Is it a distant element of the European world, or is it centred in the traditional world of the Middle East? Questions of this nature belong to the social theorists who will make sense out of the continuing process of acculturation that has changed the face of twentieth century Turkey. The challenges for the individual merchant are in direct relation to Turkey's position in a global community. Economic impact is exerted downward from the global market through the merchant to the woman who weaves carpets and produces or embellishes flat textile objects. Global markets directly affect the weaver who has competing opportunities to generate income from cash crop agricultural pursuits. Economic and time constraints exist on the use of her labour. Together, these forces create changes in villages where traditional textiles were originally produced and used.

In their new role as entrepreneurs, merchants attempt to satisfy changing market tastes, while keeping the production traditions alive. Merchants simultaneously contribute to the loss of the ethnographic characteristics inherent in textile objects originally produced for home use and to the continuation of the traditional production methods. These new market factors have affected changes in the product: configuration, surface design, and uses of colour. Merchants take an active role in redefining culture and cultural systems that emphasize efficiency of production, reduce cost, and maximize profit. Concepts of *tradition* are meaningless and are dictated by external concerns far removed from the cultural heritage of the indigenous population.

Carpets and other objects that are being produced today as a result of global market forces may be the traditional Turkish textiles of tomorrow. They may be considered valuable for their documentation of the transition from the ethnographic objects produced for noncommercial use to those produced under the influence of distant markets. Cultural transformation "is rooted in volition and it flowers in variation and innovation" (Glassie 1993:9). Missing in this transformation is the depth of meaning within the culture - the ethnography. Absent are expressions of hopes and fears, clan identities, situations of everyday life, and the communicative nature of objects in a time and culture in which verbal expression was limited.⁷

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⁷ Although a number of merchants are to be acknowledged for their contributions to this paper, the following deserve special credit. We wish to thank Mr. Hasan Semerci, Mr. Muzaffer Kaplan, and Mr. Murat Bilir of Istanbul, Mr. Muzaffer Narman of Bergama, Ms. Nesrin Mavitan of Izmir, and Mr. R. Şinasi Çelikkol of Bursa.

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Plate 1. Market conditions dictate a very fluid economic process of exchange. Buying, selling, or special order production are common. The production of *pillows* to order also destroys material remains that have high ethnographic value.



Plate 2. Distribution networks come in all shapes and sizes.
Mobile shop from the Monday market, Sındırgı.



Plate 3. Oversimplified production using chemical dye and machine spun wool. Dimensions are standardized 6' x 9'.



Plate 4. Modern weaving *factory*. Steel looms, dyed wool, the amount of wool, and the *cartoon*, are provided by the entrepreneur/merchant who dictates pattern, color, and dimension to the weaver. Many patterns have little or no association with the familial heritage of the weaver.